# SKYWAYS

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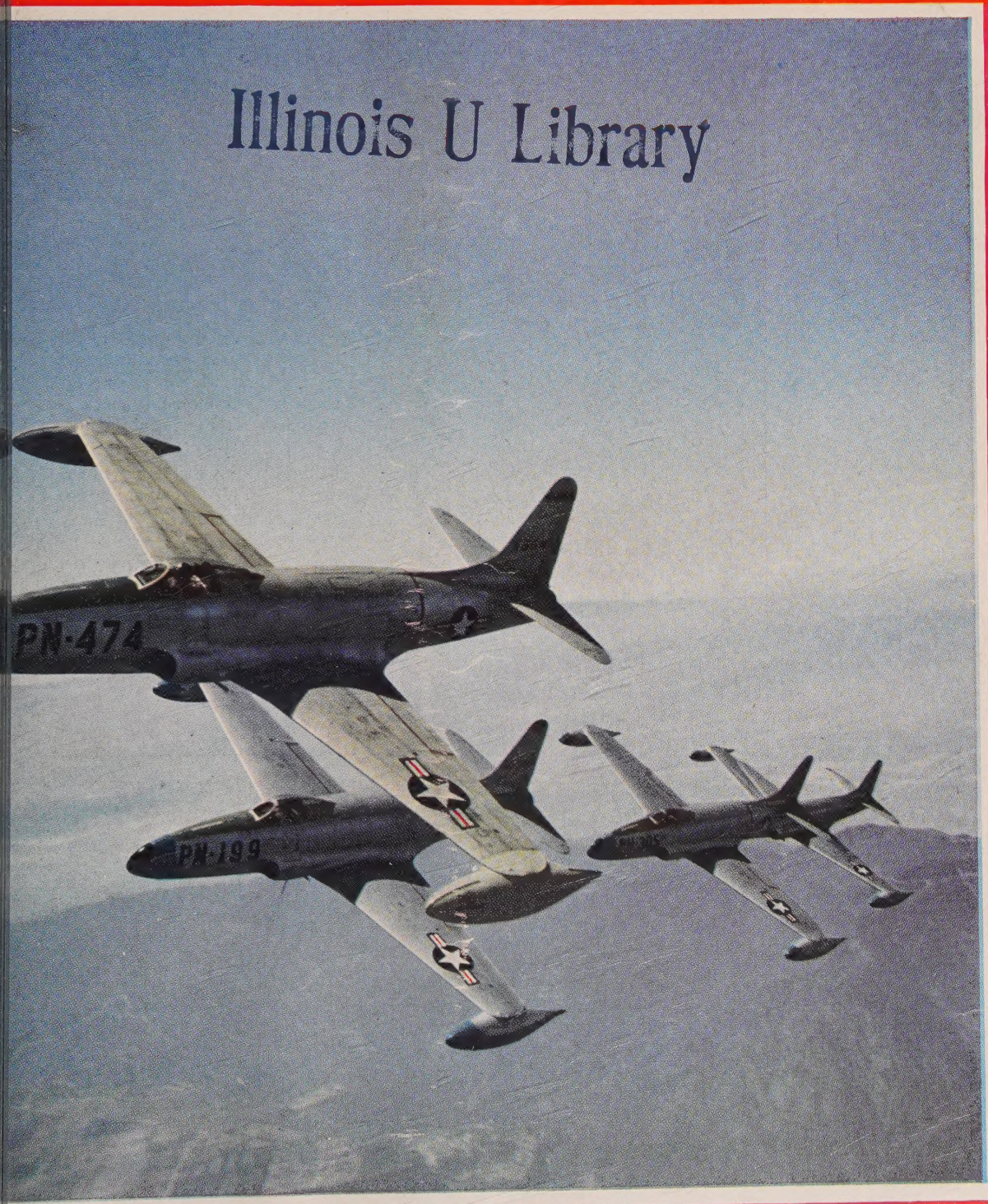


DEC. 1948 25¢

nic-Speed Ships: XF-88 & XF-89 ★ Pilot's Report . . . Bonanza

# The Birdmen's Perch

By *Major Al Williams*, ALIAS, "TATTERED WING TIPS,"
Gulf Aviation Products Manager, Gulf Bldg., Pittsburgh 30, Pa.


**Ocala, Florida,** is one of the most progressive communities in the country, that's what!

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Flutter! Make out a *special* certificate suitable for hanging up in a school.

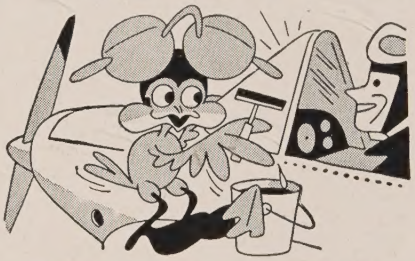
Say on it that because of the splendid program of aviation education instituted and supported by the members of the Marion County Public School System, we hereby designate all such schools as Branch Birdmen's Perches!

Be sure it's a super-engraved-type document with curlicues on the letters, etc.

And when you send it down to Ocala, Florida, mention that the Perch will be proud to send a certificate each year to the outstanding aviation student as selected by the school board. Ask 'em to let us know.

## HERE IT IS!

Close your eyes and imagine driving the family buggy into your Good Gulf Station.



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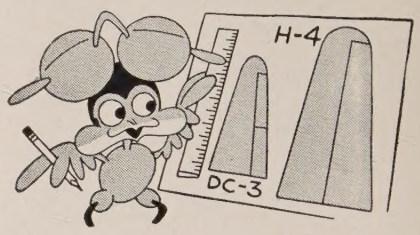
Sound interesting?

We'll keep you posted as the work progresses.

## LITTLE KNOWN FACTS DEPT.

C'mon kiddies . . . *get rolling!*




We haven't gotten enough Facts lately to stick in our eye! If we don't get Facts, we can't print 'em. If we can't print 'em, we can't hand out our handsome, durable Commissions as Perch Pilot (bottom rung).

Thank goodness for people like F. F. Torreyson, a TWA Librarian in Washington, D. C., who points out:

*"The span of the horizontal stabilizer on the huge H-4 flying boat is 18½' greater than the span of a DC-3 wing!"*

Send him a Commission, Flutter!

Then go out and look in the mailbox and see if anyone else has sent in some hot Little Known Facts On Well Known Planes.

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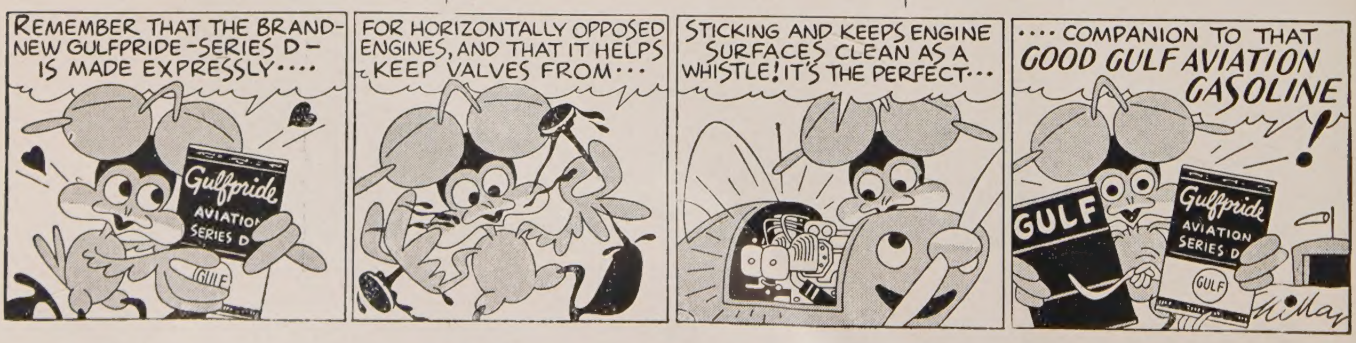

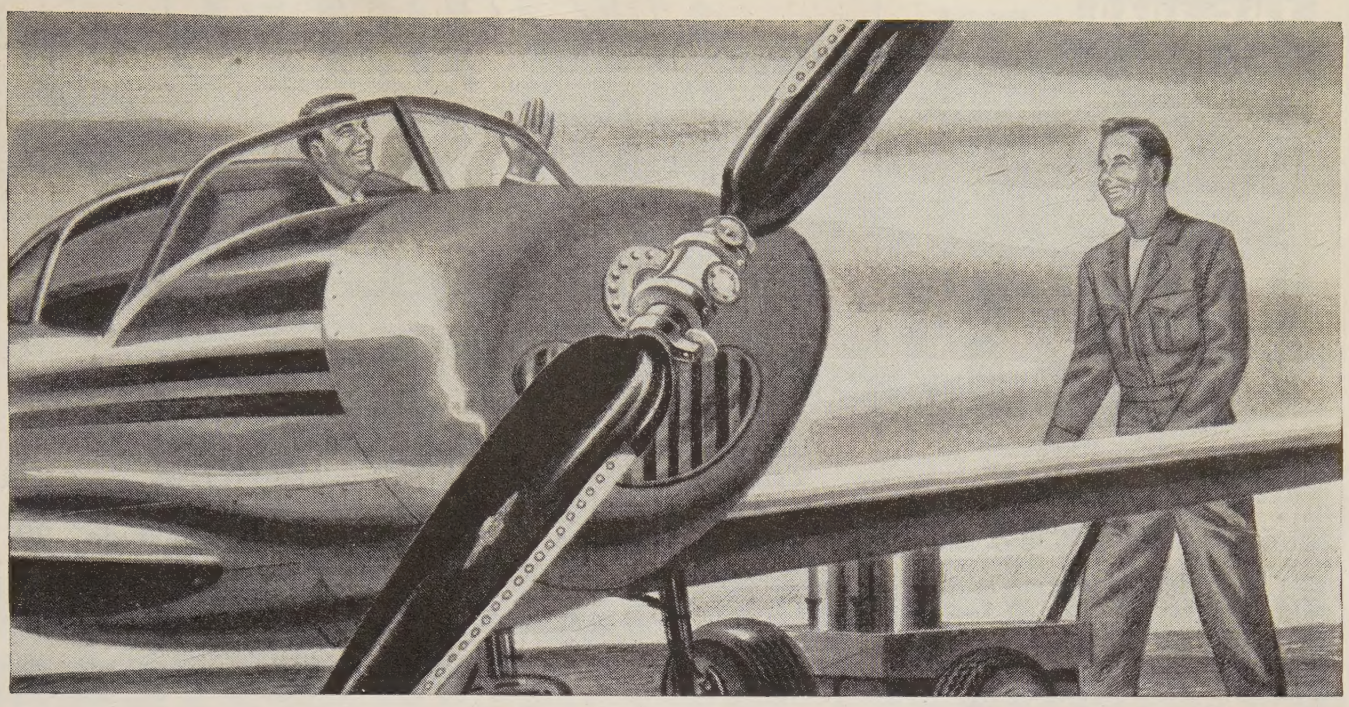

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# SKYWAYS


*Cover: Lockheed F-80's*




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# AIR YOUR VIEWS

### *Thank You, Too*

Gentlemen:

I want to thank all those pilots—commercial, private and flight instructors—who have written me in answer to my request for plane information which you printed in "Air Your Views." It is unbelievable how pilots from coast to coast, and even from Canada, have written, reporting on planes and their use in different sections of the country, information on maintenance, etc., just to help a fellow choose a plane for a certain kind of flying.

The information I have received is priceless, and I'm sorry I can't say "Thank you" in person to those writers.

I'm still in the process of making up my mind on this plane choice, but the field now has been narrowed down to two. I'm making my selection on the basis of the performance figures and other information I've gathered from the pilots who wrote me in answer to my request to SKYWAYS.

Thanks again . . . to the pilots and to SKYWAYS.

A. M. STECH

Friend Nebraska.

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### *Public Information*

Gentlemen:

We, the members of the Stick and Rudder Club of Elyria, Ohio, are aware of a condition existing at airports at Put-in-Bay and Kelleys Island, Ohio, that in our estimation smells to high heaven. We believe this condition should be brought before the public . . . shouted loud!

The airports at these islands are operated by one Milton Herschberger, doing business as the Inter-Islands Airways. These fields are marked on all maps as commercial airports where a pilot would expect to land and get the service that he gets at other commercial fields. However, at the Herschberger fields, the pilot finds he must pay a tariff on passengers at the rate of $1 per passenger, and if the pilot has been chartered to fly said passengers to these islands he is not permitted to return but must land at Port Clinton, Ohio, to pick up his passengers. Of course, Mr. Herschberger will fly these people from the islands to Port Clinton . . . for a price!

The islands of Put-in-Bay and Kelleys are nationally known as summer play spots and are as famous in our opinion as Yellowstone Park and Grand Canyon. It is quite evident that these spots are put on the itinerary of many vacationists, a lot of whom plan to vacation by plane. Place yourself in the same position as this flying vacationist: You land your ship at one of these islands, and as soon as you taxi up to the line, there's a hand out for $1 per person. A dollar isn't much and you undoubtedly wouldn't mind paying this for the privilege of landing on someone's private field if you were aware that such was the case. We are not trying to tell a man how to run his business . . . or to run him out of business. All we ask is fairness to all airmen . . . that these fields be clearly marked as private fields, and a statement included in all airport directories to the effect that there will be a charge for each passenger brought in and that all charter planes will have to pick up their passengers at Port Clinton, on the mainland.

L. BUTLER, Secretary
Stick and Rudder Club.

Elyria, Ohio.

*The airport directory we use lists Put-in-Bay as a privately owned and operated field, but it also lists Kelleys Island field as city owned. Nothing is said any place about a landing fee. We agree with you that mention of such fees should be made in fairness to pilots.*—ED.

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### *New Info.*

Gentlemen:

Under USAF News in September issue, you listed Indiana as coming under the authority of First Air Force, Air Defense Command. Isn't it the Tentth?

P. ASMUS

*Correct, Mr. Asmus. In fact the headquarters for the Tenth Air Force is in Indiana, but that change of information reached this office too late to permit our noting the change in that assignment in the September issue. Thanks for reminding us.* —ED.

•

### *Shoulder Harness*

Gentlemen:

Congrats to Jefferson on his article "Shoulder Harness . . . a Must!" I found out the necessity of some type of shoulder harness the hard way. I landed a Cub in a field after being fogged-out one night, and I hit a ditch about a foot below the surface of the ground. My stop was rather sudden! I was thrown forward into the panel. Fortunately I wasn't injured much, but I could have been. Let's have shoulder harnesses, by all means.

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# USAF NEWS

THE OLD Air Force slogan that "the difficult we do immediately; the impossible takes a little longer" really rings the bell when you add up the score on *Operation Vittles.* The following illustration should give SKYWAYS readers a clearer picture of the miracle of air transportation being recorded in Germany by USAF's Airlift Task Force.

During the first quarter of 1948, the 18 certified trunkline and international carriers operating out of 322 U.S. airports airlifted an average daily total of 558 tons of freight, mail and express, and passenger traffic equivalent to 2,561 tons. That's an average total of 3,119 tons per day which represents the average total daily tonnage carried by *all* major U.S. airlines during that 90-day period. Compare that figure with the 3,124 tons flown into Berlin by the Airlift Task Force on one day—August 31. That's right! On that day the tonnage hauled by *Operation Vittles* aircraft exceeded by 5 tons the average daily total of the entire fleet of the 18 major airlines for the first quarter of the year.

Impressive as it is, the *Vittles* tonnage for August 31, does not represent an isolated peak. For example, it is far lower than for the seven days from September 10 through September 16, when an average of 3,488 tons per day was laid down in Berlin, and Air Force Day, September 18, when the incredible total of 5,582 tons was delivered. These figures, incidentally, do not include the additional tonnage delivered by the Royal Air Force.

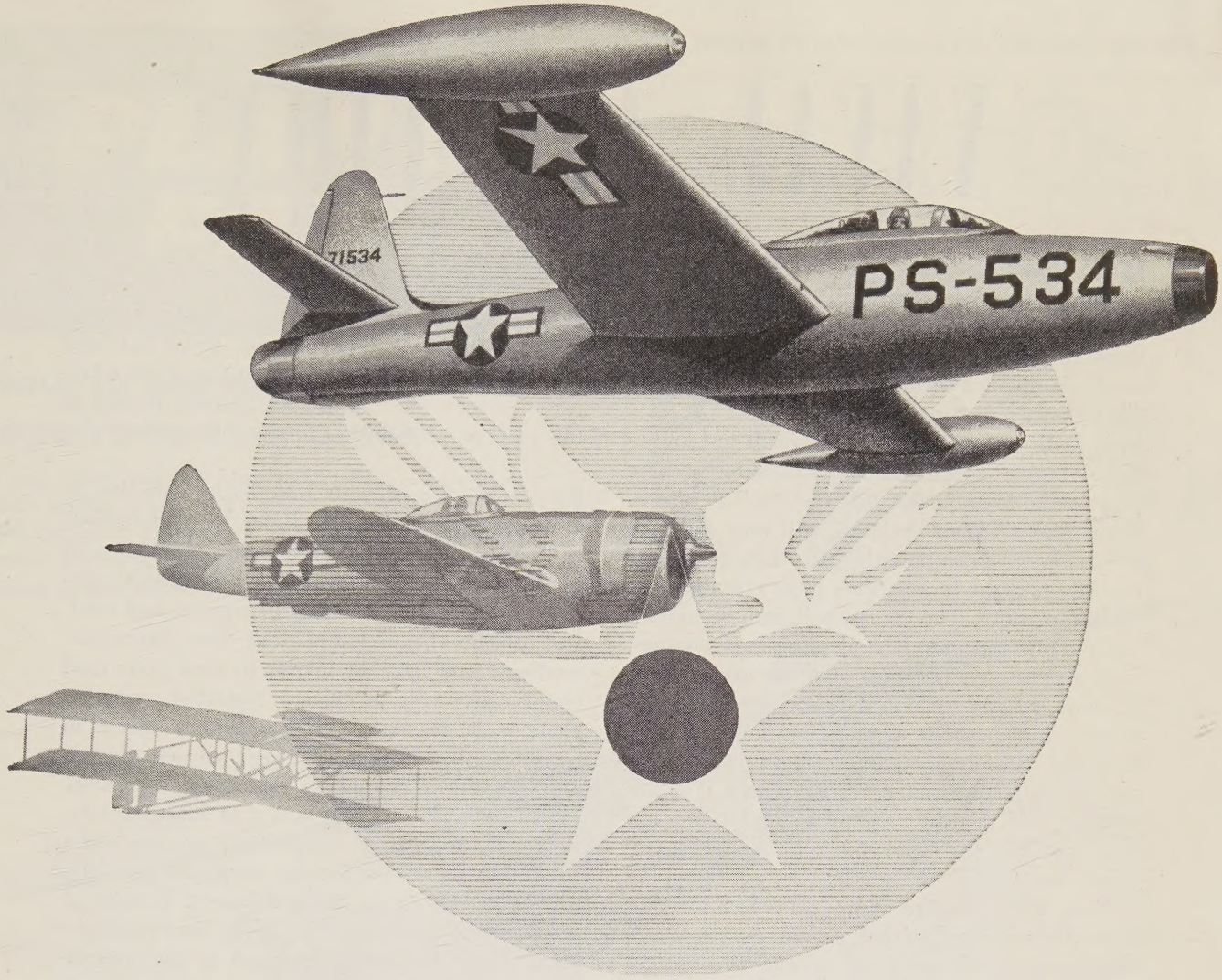
MORE than 2,250 USAF airmen soon will be wearing new Master Sergeant or Technical Sergeant stripes. The promotions are to be made during December and February as part of an Air Force plan to authorize periodic selections to the top grades as an interim program pending publication of the Airman Career Plan which will establish standard procedures for such promotions. Approximately 750 airmen are slated for the jump to Master Sergeant and 1,500 to Technical Sergeant.

MORE than 11,000 officers and 17,000 enlisted men enrolled in USAF's Air Reserve Training program are eligible to get inactive duty. According to a USAF announcement made as this issue of SKYWAYS went to press, the new pay-for-training plan, should go into effect this month.

The majority of the Air Reservists participating in the program are getting "unit training" and will be permitted to draw one day's pay, based on grade and length of service, for each training period attended. USAF plans call for 48 training periods of from two to six hours to be scheduled annually, with at least two but no more than six to be held every calendar month.

The 7,000 Air Reservists who get "Mobilization Training" assignments will be paid on the same basis as for personnel training with units. Reservists who receive M-Day assignments get definite jobs with units they would join in the event of mobilization and train individually with the organizations to which they are assigned.

HEADQUARTERS, 10th Air Force, of USAF's Air Defense Command, has been moved from Offutt Air Force Base, Omaha, to Fort Benjamin Harrison. . . . A contract involving more than $23,000,000 for bombing navigational computers has been awarded to the AC Spark Plug division of the General Motors Corporation. The computer, an improvement over previous types, was developed by the Sperry Gyroscope Corporation for use on bombers. . . . The Bell XH-15, USAF's two-place liaison helicopter, three of which are on order, is undergoing flight testing at Bell's Niagara Frontier plant. The XH-15, which features a bubble-like nose, is designed for use as an observation plane, for special photographic work, serial inspection of power or communications lines, or regular liaison assignments. It has a top speed of more than 100 mph, a service ceiling of 20,000 feet, and a combat radius of 100 miles. . . . Colonel Reginald C. Harmon, former Judge Advocate General of USAF's Air Materiel Command, has received a presidential recess appointment as Judge Advocate General of the U.S. Air Force. . . . a new under-wing single point refueling system, about three times as fast as current methods, is being engineered into Consolidated Vultee's Air Force bomber, the B-36.




# PRELUDE TO SURVIVAL

*Forty-five years ago at Kitty Hawk . . . Orville Wright soared aloft . . . to make mankind's oldest dream of heavier-than-air flight . . . an accomplished fact. ¶ Despite a complacent belief that this scientific achievement heralded an era of expanding friendship among the peoples of the earth . . . time has shown that in ruthless hands the airplane can be a frightful instrument of aggression. ¶ Only three years after World War II . . . and just a year after the Air Force has commemorated its first anniversary of autonomous operation . . . there is abundant evidence that maintenance of a dominant American air power is a vital factor in discouraging aggressor nations. Republic joins with the USAF in committing our entire resources to this end.*

AIR POWER US A F IS PEACE POWER

*Republic built the P-47 Thunderbolt, used on all fronts by the air forces of the Allied Nations in World War II . . . It is still flown by our Air Force and our National Guard . . . and we are now concentrating full production on the 600 MPH F-84 Thunderjet. ¶ Several hundred of these are in daily service with USAF groups throughout the country, meanwhile, development continues on faster, longer-range aircraft destined to probe new areas of performance. . Republic Aviation Corp., Farmingdale, L.I., N.Y.*

*"This is the year of the Thunderjet"*

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# NAVAL AVIATION

TEST pilot Captain Frederick Trapnell, the man who could fly the hangar doors if given a day or so to work on them a little, has found a way to provide the Navy with more pilots with Trapnell test-know-how. He has pioneered in establishing a new type school to train test pilots at NAS Patuxent. Hand picked Naval Aviators will now go back to school and in six months learn how to handle expertly and safely aviation's most essential and hazardous duty. The course will include mathematics, physics, aerodynamics, aircraft engines, fuels and lubricants, propellors, test instruments, gasoline, jet and turbine performance, test techniques, and methods of reducing and reporting technical data obtained during flight tests. Director and head instructor at the school is Commander "Sid" Sherby, veteran test pilot who not only test flies the "big ones" but still ardently rides his hobby of building powered flying models. With men like "Trap" and "Sid" to emulate, the students in that school get as much inspiration as top notch instruction.

ANOTHER source of inspiration to all hands at NAS Patuxent is that beloved, admired, and respected Apollo Soucek, Rear Admiral, and Commander of the Naval Air Test Center. Modest and unassuming, he is the friend of every man aboard his station whether he be an officer, a civilian worker, or a seaman just out of boot school. Way back in the days before oxygen masks were heard of, Lieutenant Soucek set a world's altitude record of 38,560 feet for seaplanes in 1929, and another world's altitude record of 43,166 feet for landplanes a year later. His flight gear for those trips would look like a Rube Goldberg cartoon to the test pilots of 1948. His nostrils were plugged shut by a Flight Surgeon so that he was forced to breathe through his mouth. His oxygen came from a flask via an empty hot-water bottle through a rubber hose whose end he held in his mouth. By pressing on the hot-water bottle, Lieutenant Soucek was able to force oxygen into his mouth. It was a form of pressure breathing long before it had a name! The goggles he wore to keep his eyeballs from freezing had six pin holes in the lenses to enable him to still see a little when condensation froze upon them. This odd gear plus heavy boots, flying suit and mittens kept him alive while he set an altitude record in the vicinity of handy Arlington Cemetery!

IF you've blown your nose since you began reading, if you're just about to in deference to that runny cold brought on by the cold November winds, and if you're a flyer, this paragraph is for you. Navy flight surgeons and medical officers have found that the "harmless" medicine you may be taking to cure your cold could cause you to crash. Benadryl, common element in marketed cold remedies taken in quantities from 50 to 150 mgs. causes drowsiness, dizziness, weakness, dimming of vision, difficulty in coordination, loss of visual acuity, nervousness, mental confusion, nausea, and stupor. In those dosages, the effects of the drug completely disappear after 12 hours, if eight of them are occupied by sleep. If you must take benadryl, climb in the feathers, not in the cockpit.

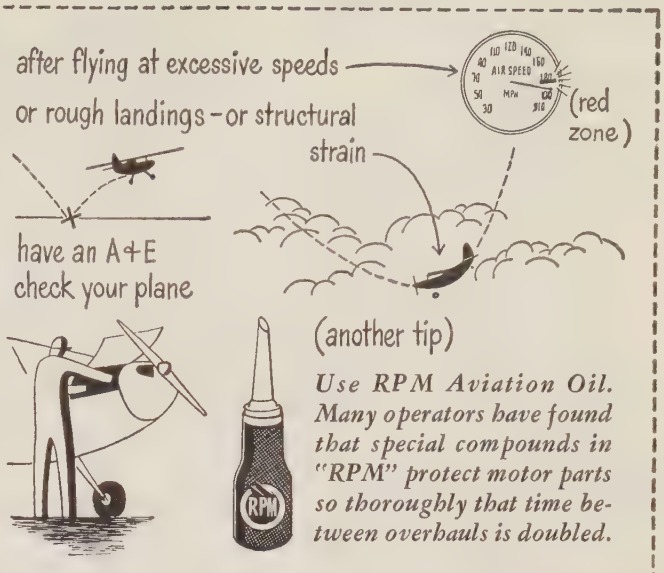
SECRETARY of the Navy John L. Sullivan described us as a "one-shot-Navy" about a year ago. At that time there was in existence only one air group per aircraft carrier. Operations could not be sustained very long with so inadequate a force under combat conditions. Today the Navy is busy establishing two air groups (the planes which can be embarked on a carrier at one time) for each of our floating bases. While one air group is on board, its replacement is training and perfecting its air operations, is being re-formed and re-equipped on shore. Unable to purchase planes at a rate sufficiently rapid, the new air groups are being formed by withdrawing from storage the last of our World War II aircraft. These planes in turn will be replaced by new types as they roll off the assembly lines. The ranks of the men who will fly them are being replenished by the new aviation cadet program. Naval Recruiting Officers in all cities are looking for bright young men between ages of 18 to 25 who have had at least two years of college and who want the greatest thrill aviation has to offer—flying jets.

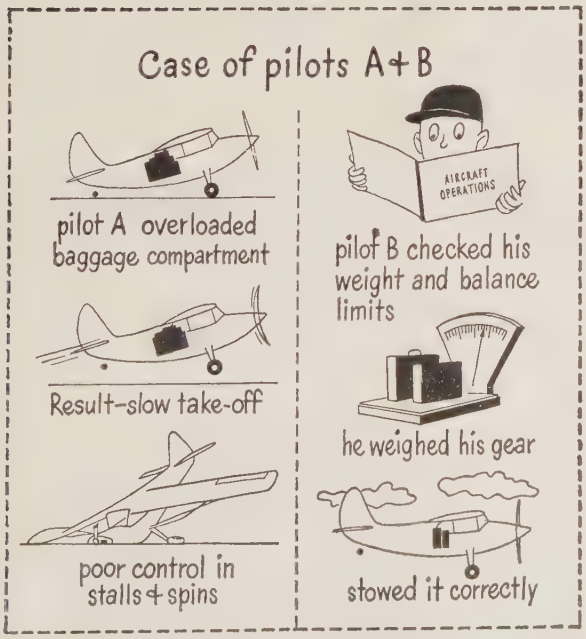
# PLANE FAX

A page of service tips for private flyers and fixed-base operators

## How to prevent costly repairs to your plane

If your plane has had some hard landings or undue strain during flight, don't wait for the regular periodic check-up. Have an A & E mechanic inspect it before the next take-off. In this way, you correct minor defects before they call for major repairs.




*"We'll take better care of your plane"*

## Do you know how to load your plane?

Important thing to remember is distribution—*balanced* distribution of the load. Even though the total load may not exceed the manufacturer's limit, poor distribution may upset the balance and be a hazard. No less important is balance in your aviation gasoline. That's why so many fliers depend on Chevron Aviation Gasoline—scientifically blended to contain the right amount of light fractions to assure you easy starting and fast warm-up.

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# PROP WASH

## *Aero Oddities*

Time Out. When a lightplane landed on runway at Bedford Airport, Mass., and stayed there, tying up traffic, Airport Manager Edson taxied out to see what was wrong. He found a young couple had paused on their cross-country flight to change the baby's diaper! *(D. Politella, Nedrow, N. Y.)*

Chain Smoker. Pilot on a cross-country discovered he was out of cigarettes. Spotting a tavern on road below, he landed plane, taxied up to tavern, bought his cigarettes and took off again. *(Mrs. G. Miller, Bartlett, Ill.)*

Easy Does It. Shortly after take-off, a plane with paying passenger aboard lost a wheel. Mechanic at field rushed out in jeep, picked up wheel, then when pilot brought ship around for landing, mechanic held wheel up to warn him. Pilot circled field again, made perfect belly landing without passenger knowing anything was wrong. *(T. Conway, San Francisco, Calif.)*

Demonstration. Proud owner of a "new" airplane invited friends out to field to show off his possession. After a ground look, he took off to show them how it handled in air. He buzzed field twice, then came in for perfect landing . . . . except that he forgot to lower landing gear. Plane slid along runway, ground looped twice, then came to stop few feet in front of his astonished group of friends. Owner climbed out unhurt, walked to hangar, returned and hung "For Sale" sign on well damaged airplane. *(E. G. Scott, Salem, Oregon)*

Stowaway. Flight Instructor Spencer took off from field for pleasure jaunt around neighborhood. After putting plane through several new maneuvers, Spencer landed, but didn't bother taxiing to hangar, because of unexpected passenger . . . a large snake. *(M. Covington, El Cajon, Calif.)*

Mal-Formation. Flight student from local airport spotted formation of Air Force trainers and joined up with the group, flying tail position. When AF pilots tried unsuccessfully to shake the uninvited participant, they changed formation, putting private trainer in lead position with AF flyers flying wing. This way they led flight student back to field, forced him to land, then climbed to altitude again and continued their AF Independence Day demonstration. *(G. Pen, Weirton, W. Va.)*

Next Move. A casket factory looming up alongside the main ramp at busy Goleta Airport is a depressing sight to flyers, the airport commission decided, and so Manager Harding has been instructed to effect removal of the concern to some other less conspicuous spot. *(E. Gentry, Marthaville, La.)*

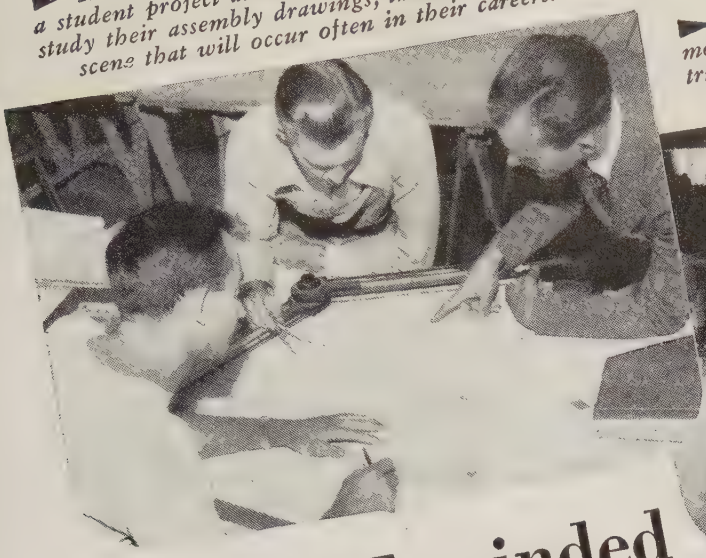
Last Drop. Force of chute opening swept borrowed goggles off chutist, and they dropped thousand feet without damage. Later, when chutist returned goggles to owner, owner dropped them just few feet and lens broke into hundred pieces. *(L. A. Barr, Arlington, Va.)*

Taxi Service. Jacks Flying Service owner Muller uses his *Ercoupe* to hop from his hangar at one end of field to another hangar at far end. *(R. K. Doyle, Gainesville, Florida)*

**Att'n Readers:**

If you have any news note oddities pertaining to aviation, send them to SKYWAYS, Box 17, 444 Madison Avenue, New York 22, N. Y. Five dollars will be paid the sender of each "oddity" printed. Contributions cannot be returned unless accompanied by stamped addressed envelope. The decision of the editors is final.

*In a huddle on their design for the rudder of a student project aircraft these Northrop students study their assembly drawings, thus duplicating a scene that will occur often in their careers.*



*Northrop students get practical experience in modern engineering test methods. Here stress distribution is being studied by passing polarized light through a transparent plastic specimen.*

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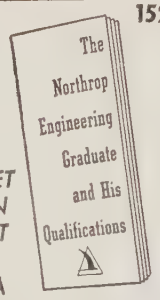


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**NEW YORK HERALD TRIBUNE** puts to profitable use its Lockheed Lodestar called "Flying Newsroom." Chief Pilot is Lloyd Rondeau (below, right). Plane is equipped to carry nine passengers, has darkroom, typewriter tables, etc.

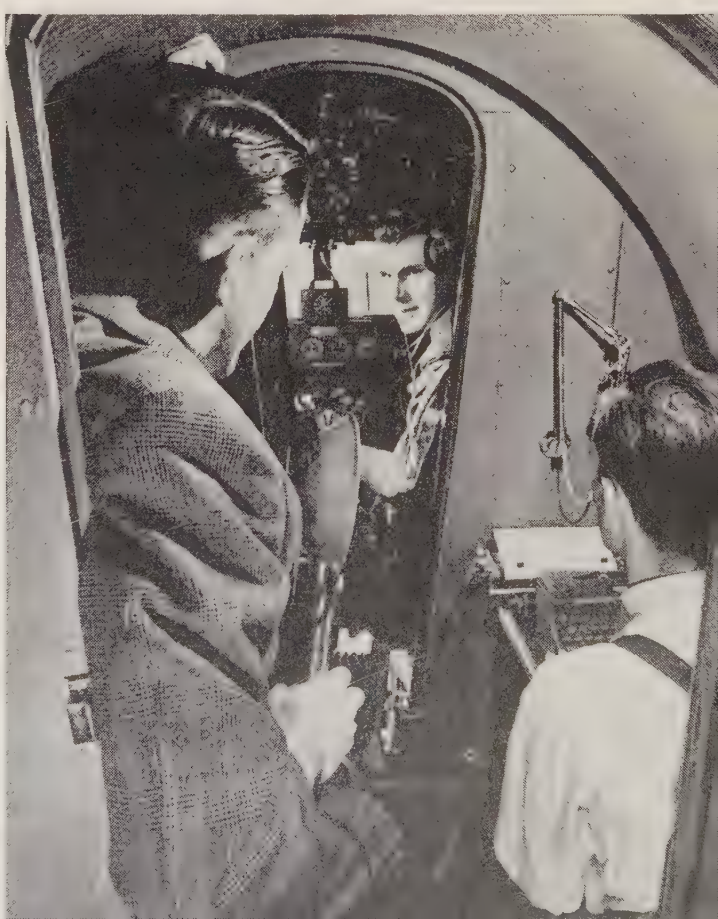
**NEWS BEATS** via the "Flying Newsroom" have included such front-page news stories as the Monsanto plant explosion in Texas City, Texas. One window of the Lodestar is removable for use by photog getting air shots

# FLYING NEWSROOM

## By JERRY LEICHTER

TWENTY years ago, when the airplane was still a promotion-conscious gadget, newspapers paid enormous sums of money for exclusive rights to stories of the momentous flights of the day across continents and oceans. Today the airplane means as much to news columns, but the emphasis has changed from a machine *in* the news to a machine *behind* the news.

Instead of being a seven-day wonder in screaming headlines, the airplane has become a



**HOME BASE** for the N. Y. Herald Tribune plane is at Westchester Airport where it is always on 24-hour stand-by

year-round business investment, whether it shows up on the balance sheet as a two-placer for the aviation editor or a plush item for both reporters and executives.

Long before the Wright brothers explored the sand dunes at Kitty Hawk a future for the airplane in the news world was assured by a great change in newspaper techniques begun in the decade after the Civil War.

When The New York *Herald* sent Henry Morton Stanley to find the English missionary David Livingstone "somewhere in Africa" and then was able to announce on July 2, 1872, that Stanley had found Livingstone along with an exclusive story of how the missionary had discovered the source of the Nile, it was the forerunner of a new type of newspaper enterprise, "journalism that makes news." It laid the groundwork for the use in later years of every means of transportation by reporters on national and world-wide beats competing with each other for scoops as deadline races for news and pictures narrowed to hours and minutes.

When a nitrate ship blew up in the harbor of Texas City, Texas, in April, 1947, and subsequent fires and explosions destroyed part of the city, the fast twin-engined Lockheed *Lodestar* belonging to the N. Y. *Herald Tribune,* landed on a flight strip near the scene within hours after the first news of the disaster had flashed over the wires. In the days that followed, with roads blocked and lines of communications down or taken over by police, the big *Lodestar* flew reporters, photographers, Red Cross officials and others concerned with disaster relief in and out of the city. Then as the emergency subsided the plane returned home with the accolade that its first reporter passengers had not only beaten all the other papers in their home area to the news scene, but the plane had aided in helping to relieve the plight of a city whose misfortune received world-wide interest and sympathy.

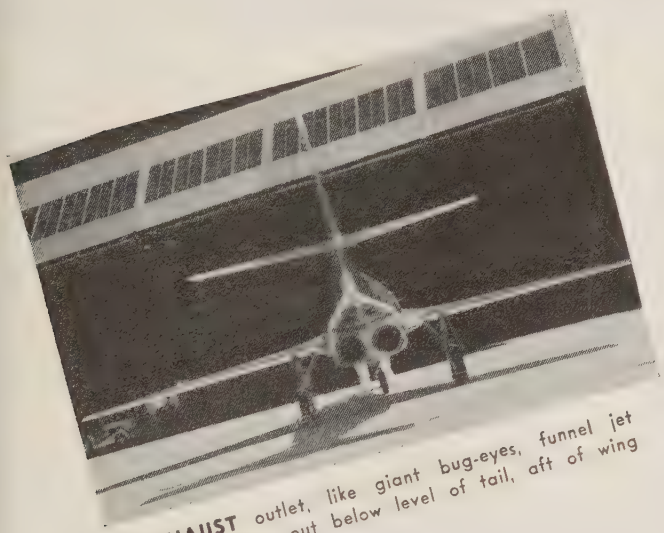
In a manner of speaking, the men who use that *Lodestar*, the "Flying Newsroom" of the New York *Herald Tribune*, are lineal descendants of Henry M. Stanley, both in employer and results, and like its progenitor the *Herald Tribune* is still "making the news."

In these days of widespread syndicates and national newspaper (*Continued on page 40*)

**PILOTS** Randeau and Roy Bach (left) are both RAF veterans and each has over 6,000 hours and all pilot ratings

# XF-88

**SKY-VIEW** photo of McDonnell XF-88 "penetration" fighter shows ship's swept-back wing and tail. Note the stall vanes (dark lines) on wings

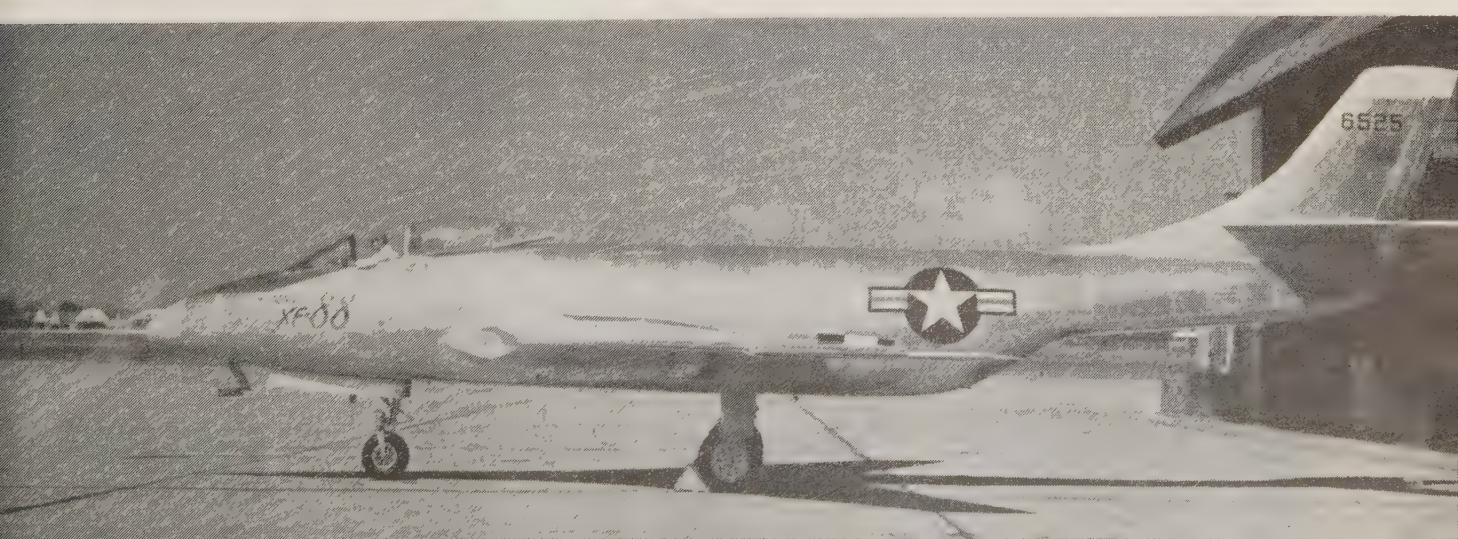


**EXHAUST** outlet, like giant bug-eyes, funnel jet exhaust gases out below level of tail, aft of wing

ADD another jet to the Air Force's roster of experimental fighters. This one a supersonic twin-jet designed by McDonnell Aircraft in collaboration with the Air Materiel Command. According to a report, this XF-88 is one of the fastest fighters to appear on the USAF list. Called a "penetration" fighter, the XF-88 is said to be capable of operating deep inside enemy territory either as a fighter-bomber or as a bomber escort ship.

Powered by two Westinghouse J-34 jet engines slung internally in the fuselage below the wing, the XF-88 has a top speed of more than 700 mph. Its rate of climb is twice that of the F-80, and its range is reported to be "better than other jet fighters." The ship has a 40-foot wing span, and its wing and tail surfaces are swept-back at an angle of 35 degrees.

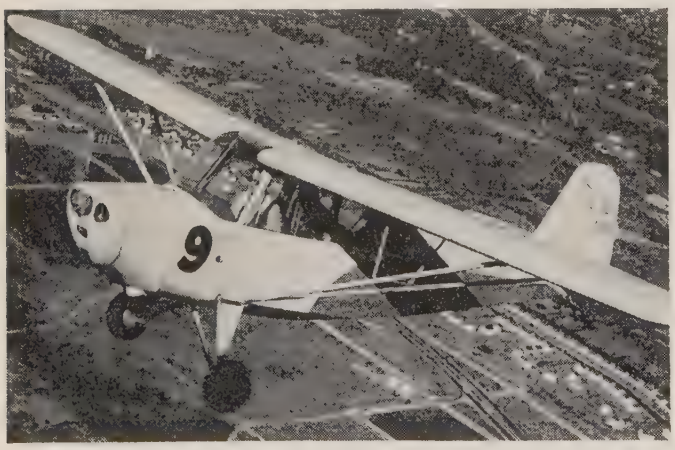
**PROFILE PHOTO** of XF-88 emphasizes its thin wing and swept-back tail. Ship is powered by two Westinghouse J-34 jets



**SAFETY** in X-C flying would be assured if you could jog along at 30 mph without stalling, to note check points

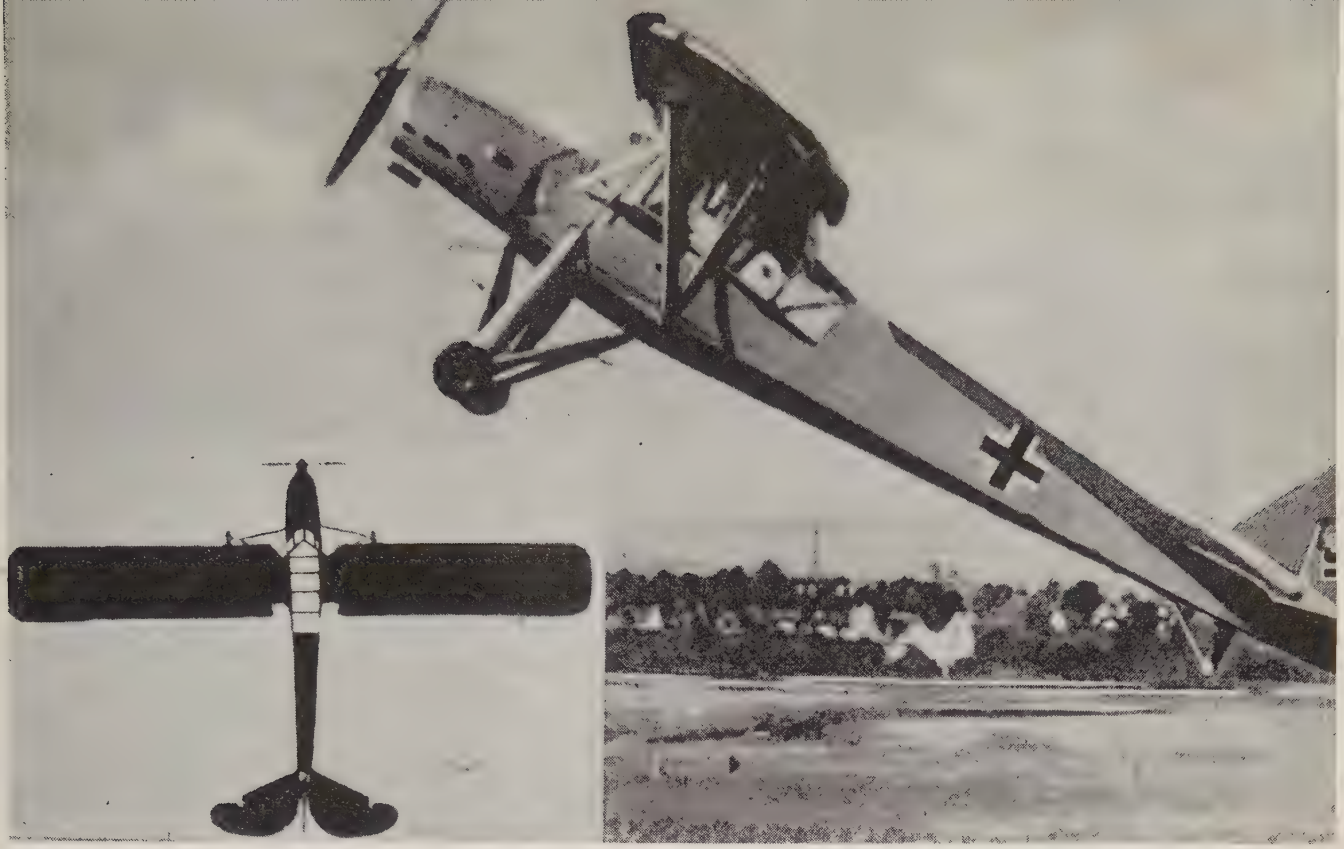
# Low and Slow

## By EDWARD E. SLATTERY, JR.



**CAR's** forbid flying below 1,000 feet above ground over congested areas. But some pilots can't resist urge to go down low and slow to verify position . . . and a stall gets them. One stall-proof ship (below) is the Ercoupe


**PLANE** that wouldn't stall out at 30-mph speeds would be useful ship for flying farmer or power-line inspector



**GERMANS,** just prior to World War II, developed an airplane with a 108-mph top speed, yet it could maintain flight at 31 mph. Though one was captured by British, neither Britain nor the U. S. has developed such a ship

**U.S. LIGHTPLANES,** of which Aeronca Champion is typical, have 100-mph top speed, but they stall out at 40 or more

I HAVE ALWAYS had the desire to slop around the sky low and slow provided I could do so with some degree of safety. Now that nonspinnable airplanes are available, and simplified control has eliminated the need for skilled coordination in piloting, the next thing the engineers can do is design in the ability to fly slowly.

This desire of mine to fly low and slow will undoubtedly baffle military pilots, most of whom trained originally on a minimum of 200 horsepower and consider a C-47 a nice cross-country airplane. But pilots of 75-hp lightplanes without radio, who rarely fly higher than 2,000 feet above the ground, will understand immediately. During cross-country flights they have probably struggled with charts in a snug two-place cabin and circled a half dozen times trying to determine if the rail-highway intersection underneath is really Squeedunk Corners. The impulse to go down low and fly slowly by the railroad station is sometimes overpowering.

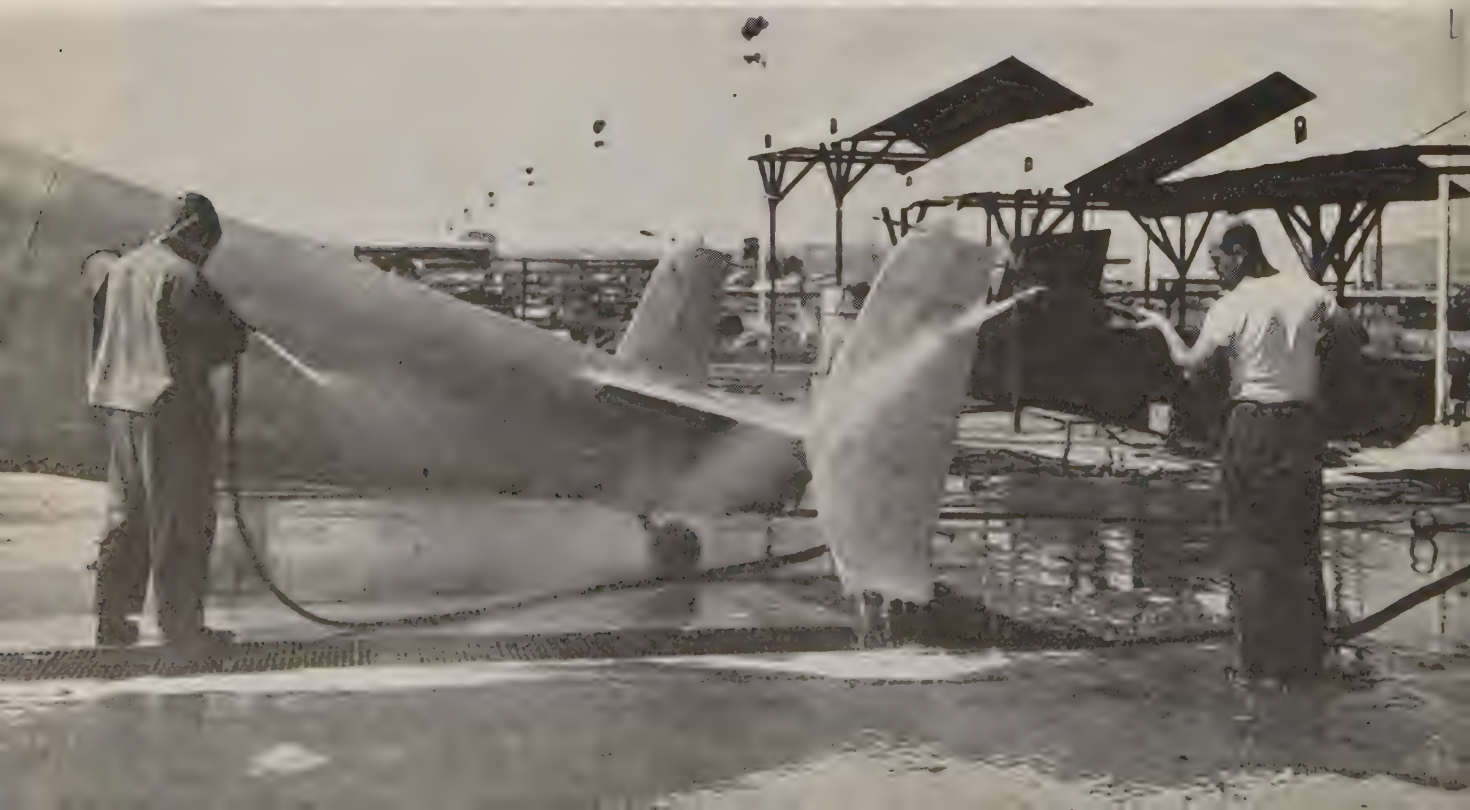
It is a temptation that military pilots, accustomed to ILS, MEW, MIT, VHF, DME, GCA, and the rest of the alphabet, never meet. My last Army flight is a typical example of what I mean.

We took off from Dallas in a C-47 bound nonstop for Indianapolis. (*Continued on page 38*)


**TWIN-BEECH,** delivered to private owner just prior to war, was painted "on the assembly line" at Beech factory

# *To paint or not to . . .*

**CLEANING PROCESS,** using a steam compound developed by Cee-Bee Chemical Co., and clear water, requires 10 hours



***Cost of painting plane might well be less than cost of yearly polish jobs***

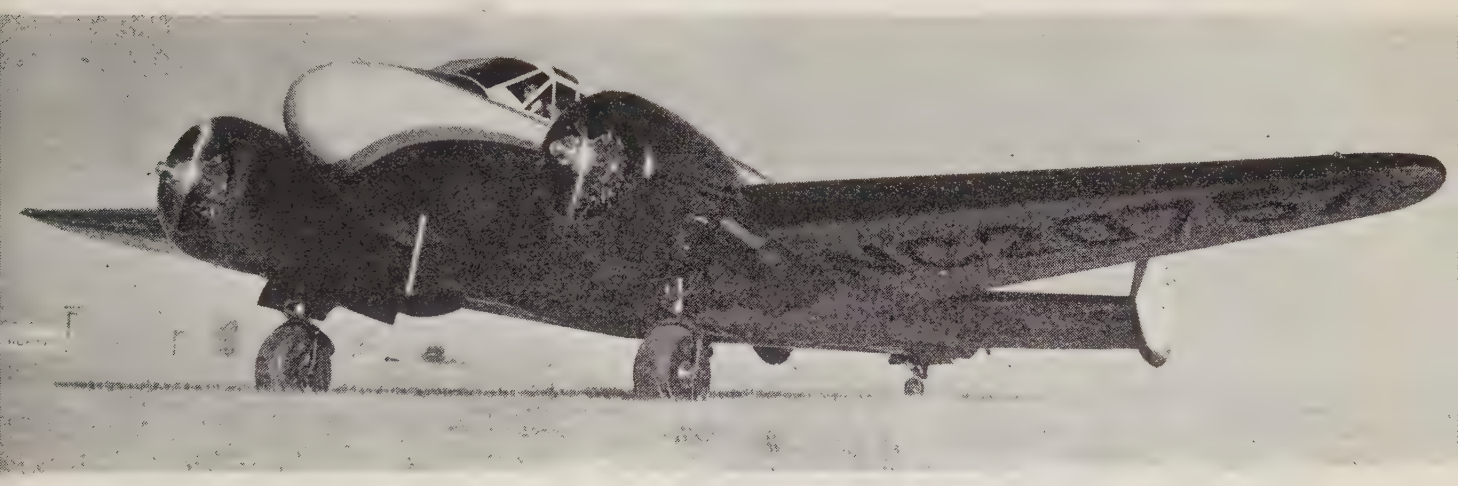
# By LEE IRWIN

IT doesn't require training as an accountant to compare some interesting sets of figures on the cleaning of all-metal aircraft and come up with conclusions that may change the complexion of the business and personal air fleets of the U. S.

According to several maintenance sources, it costs between $35 and $90 to completely polish and wax a four-place, un-painted, all-metal aircraft and most of them require the service at least four times a year. It only costs between $5 and $10 to wash the same aircraft. Considering a plane the size of a DC-3, machine polishing and hand finishing runs to about $500 (figuring $2.50 labor cost per man-hour) while a wash job for the same plane, without polishing, might amount to about $60. Naturally, these figures are subject to variations in different sections of the country, depending on the man-hour labor costs and the type of service extended by the operator doing the work, but they are good typical figures from which to work.

A *dependable* all-over exterior, two-coat paint job on a four-place, all-metal plane, whether factory or independent, and taking into consideration the condition of the craft, can cost between $200 and $400. The paint should last in good condition from a minimum of two years to as long as the owner is satisfied with his color scheme. Even after the paint begins to deteri-

**EXEC PLANE** owners sometimes prefer to have their corporation aircraft unpainted except for special trim around engine cowlings, nose, etc., instead of an over-all paint job such as is on this company-owned Twin-Beech (below)



**PERSONAL PLANES** in the two-place category are fairly easy to keep clean. Polish job can be done by the owner


**SPECIAL TRIM,** painted on FAMA Argentine airliner, was put on without using primer or bonding coat, but paint did not lose its gloss or peel off. Trim on the Texaco Oil company ship (below) was put on after a primer coat


orate, only a partial re-touch job might be required to bring it up to snuff again. The paint cost for a complete exterior on a DC-3 is estimated to run up to $500 or more, depending on the completeness of the job, but it can be done for as little as $200 under certain conditions.

All it takes now for that non-accountant aircraft owner, whether private or corporation, is to figure out what his particular plane would cost to paint and add to that the number of washing jobs which might be necessary during the year. After arriving at that interesting total he might compare it to his costs for the polishing operations required to keep the executive plane bright and shining without paint.

Most aircraft owners and pilots will be double-damned before they'll ever repeat a hand-polish job on an un-painted all-metal plane after once going through the tedious labor of removing grime from aluminum. But the same men have no objections to washing and hand-waxing a painted all-metal plane, because the work is easier and they've been conditioned to it by years of auto ownership. Cleaning aluminum can take plenty of heavy elbow grease while the same job on a painted surface requires only moderate rubbing at the most. The proof of the pudding is in the difference in operator prices for the cleaning jobs. If the aluminum surface was as easy to clean, it wouldn't take so much longer to do—a fact which shows up on the bills in favor of a painted job. The cost of cleaning a painted plane runs to about half of what it takes to polish and wax the un-painted type.

There are several legitimate questions on this problem of whether to paint or go bare. "I've heard that painting slows down a plane quite a bit and affects its performance, is that true?" asks one owner. The normal thickness of a single coat on metal is considered to be .0005 inch for zinc chromic primer and .001 inch for lacquer or enamel. The weight (*Continued on page 42*)

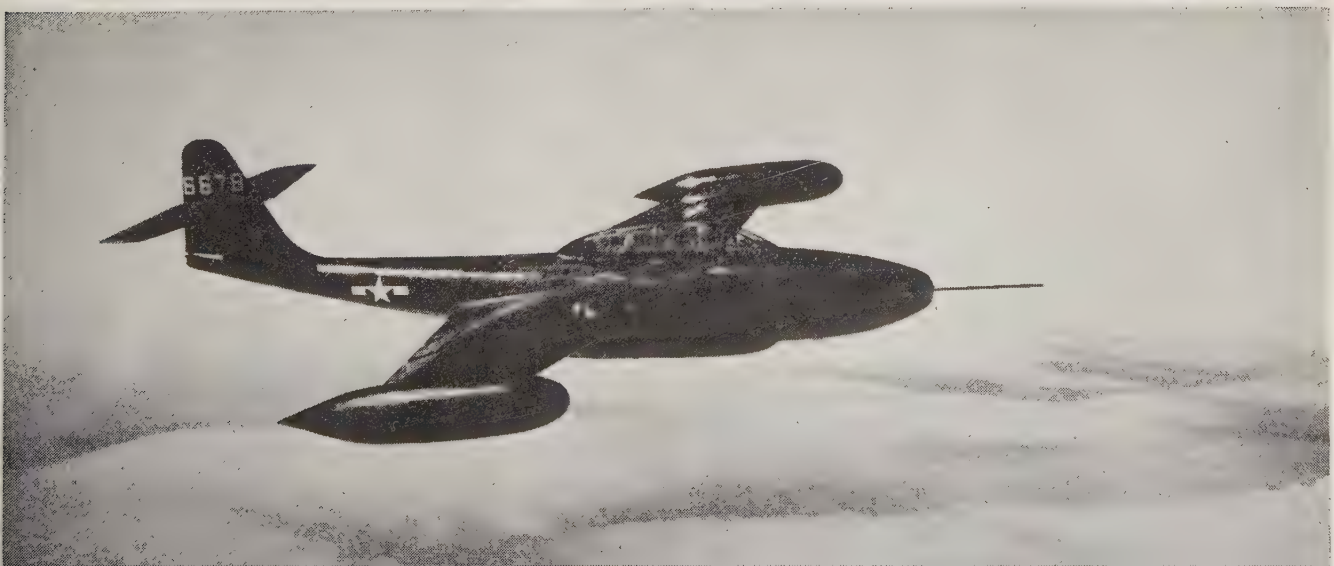
**QUESTION** is "which one is painted?" Navion on left has coat of aluminum lacquer; one on right is unpainted


**NORTHROP XF-89,** with its up-swept tail that gives it the appearance of an enormous black scorpion, is called "fighter with the X-ray eyes"

THE UNITED States Air Force chose Air Force Day to announce a new all-weather jet fighter. Designated the XF-89, this ship was designed and built by Northrop Aircraft. Feature of the ship is its radar which enables it to penetrate darkness, storm or fog, to track down other aircraft or find ground installations.

The XF-89 is slightly smaller but heavier than the *Black Widow*. The '89's two jet engines are mounted side-by-side in the under part of the fuselage. The horizontal stabilizer on the ship's swept-up tail has been moved upward to approximately midway of the vertical stabilizer to avoid the twin blast of the hot exhaust from the jet engines and to diminish effect on tail surfaces of turbulence caused by high velocity airflow over its razor-thin wings.

**NIGHT FIGHTER XF-89** is powered by two GE-Allison J-35 jet engines. This fighter has gross weight of 30,000 pounds; a top speed of well over 550 mph. It carries a two-man crew, including pilot and radar operator



# *Pilot's Report...*

# Beech BONANZA


**TEST FLIGHT** in Bonanza was from Burbank to Reno. While Pilot Downie did some in-flight computing, the camera recorded ship's instruments . . . IAS was 145 mph at 9,200 feet at 2,050 rpm with 20 inches of manifold pressure

***Cross-country and stall-test flight formed this pilot's Bonanza opinion***

## By DON DOWNIE

*(This is the fifth in a series of impartial pilot reports on current four-place airplanes.)*

PROBABLY more words of copy have been written about the Beech *Bonanza* than any other commercial plane in the air today. Aviation reporters, it seems, either like it immensely or take a dim view of its flight characteristics.

Here's the opinion of one reporter who had never before flown a *Bonanza.* This story is based on two different hops, totaling 6½ hours of flying over California and part of Nevada—enough flying to give your reporter a pretty fair idea of how the *Bonanza* handles. Knowing the pay-off in the *Bonanza* is its speed, our first hop was a cross-country jaunt with a full load—pilot, three passengers and baggage, plus a heap of camera equipment. The plane was NC449IB, a well-used demonstrator with 131 hours on the time-recording tachometer, and our immediate destination—San Francisco, with the added possibility of a flight to Reno, Nevada, to test the high-altitude performance of the sleek ship.

With baggage stowed and passengers aboard, your reporter climbed in—and what a pleasure, that *Bonanza* cabin.

The front office of the *Bonanza* looks a lot like

**EN ROUTE** to Reno, the author brought the Bonanza into Sky Harbor Airport, elevation 6,230 feet, at Lake Tahoe

**RENO,** called "biggest little city" (below) was in sight a few minutes after taking off from Lake Tahoe

a small transport. There are a lot of switches and levers, but in any modern plane that has a retractable landing gear, automatic flaps and a controllable-pitch prop, there are bound to be more cockpit levers.

A once-over-lightly (left to right) of the panel in the beautifully upholstered cockpit shows a fuel change-over valve and wobble-pump combined by the pilot's left knee. There is a map case across the bottom of the panel on the left, and directly above it is the pre-selection radio designed for Beech by Motorola.

**AIR VIEW** shows hard-packed sod runway at Arculatius Ranch. Field elevation is 7,000 feet

Flight and engine instruments cover the center of the well-filled panel while a series of organ-type switches across the bottom of the panel control lights, fuel gauges, flaps, gear and landing lights. The switches, propeller control and throttle are directly below the control column. At the far right of the panel is a glove compartment, located above the fuse and electrical circuit breakers. There are two ash trays.

The stall-warning indicator is placed almost in line with the pilot's left eye. This controversial little gadget lights up like a pin-ball machine shortly before the airplane stalls. Without getting into a long-winded discussion on the merits and shortcomings of the stall-warning indicator, let's just say that you can fly the airplane safely without this flashing light and, after all, it isn't too annoying.

A safety catch under the edge of the panel controls the action of the flaps and the gear-retracting motors. As an additional safeguard for extremely knuckle-headed pilots, a solenoid switch on the landing gear is opened when the weight falls away from the wheels so that the gear cannot be retracted on the ground. In case of an electrical failure, there is a manual gear control located just behind the pilot's seat.

The big Beech-made electric paddle on the *Bonanza* is a honey. A single small toggle switch controls the angle of the blades and, after a few practice tries on the ground, changing prop pitch becomes almost automatic. Should the electrical system short out, the blades automatically return to low pitch.

On the demonstrator used for this SKYWAYS' survey flight, a dual control wheel was installed. Aside from this one addition, the airplane was completely "stock."

After a cockpit check, we taxied easily down the roller-coaster ramp at the Burbank Airport.

On the most recent *Bonanzas* a steerable tailwheel is installed, but (*Continued on page 44*)

**AIR SHOT** of Lake Tahoe Airport shows 4,000-foot field. Landings are made toward trees in upper lefthand corner

# CAOA REPORT . . .

## CORPORATION AIRCRAFT OWNERS ASSOCIATION, INC.

Corporation Aircraft Owners Association is a non-profit organization designed to promote the aviation interests of the member firms, to protect those interests from discriminatory legislation by Federal, State or Municipal agencies, to enable corporation aircraft owners to be represented as a united front in all matters where organized action is necessary to bring about improvements in aircraft equipment and service, and to further the cause of safety and economy of operation. The CAOA headquarters are located at 444 Madison Avenue, New York 22, N. Y.

### *New Flight Indicator . . .*

A new flight instrument designed to simplify flying under instrument conditions and to improve the accuracy of ILS approaches has been announced by Sperry Gyroscope Corporation. Called the Zero Reader, this instrument has been under development for about eight years. The instrument is a cross-pointer cockpit indicator which correlates attitude, altitude and heading information for the ship in flight. Whether flying a pre-selected heading cross-country or using an ILS approach, the Zero Reader automatically provides the proper rate of correction to bring the ship out on the desired heading without overshooting. The Zero Reader tells the pilot whether to fly right or left, up or down, instead of merely indicating the attitude of the plane, thus leaving interpretation up to the pilot.

Flight tests have indicated that manual ILS approaches can be made with greater accuracy via the Zero Reader than with the standard ILS cockpit indicators.

According to reports, the initial price of the instrument is somewhere in the $4,000 vicinity.

### *New Transport . . .*

The British have come up with a new ship for either executive transport or feeder-line transportation. Designed and built by Percival Aircraft Ltd., the plane is a high-wing all-metal monoplane having seats for eight passengers. It is powered by two Leonides 520-hp engines, and has a range of 800 miles. Called the *Prince,* the tricycle-gear plane may be fitted with either floats or ski undercarriage.

### *More Air Traffic . . .*

Civil aircraft operations in the U. S. reached an all-time record high of 1,930,736 during the month of July, according to the monthly statistical report of the CAA.

This figure was 6,234 above the figure given by CAA for the preceding month, and more than 100,000 above that of July a year ago.

### *New Turning Rule . . .*

An amendment to the Civil Air Regulations recently adopted by the CAB at the suggestion of the CAA now makes possible the correction of plane noise conditions at many points throughout the country. The new amendment permits shallow turns at an altitude lower than 500 feet and this, according to CAA officials, will enable planes taking off to avoid densely populated areas in many localities that lie along the extension of certain runways.

Traffic patterns already have been adjusted at Newark Airport, LaGuardia and National Airport in Washington, D. C.

A. S. Koch, Assistant Administrator for Aviation Safety, reported, "Now, although we cannot and will not order pilots to make turns at low altitudes, CAA agents will confer with airport managers, pilots and local officials at every point where the new rule might permit decreasing objection to the noise of low-flying planes.

"We are concerned with safety in flight," Mr. Koch added, "but we are also concerned with the comfort of those on the ground who dislike the noise of low-flying planes."

### *News Notes . . .*

Sky Service Corporation, based at Municipal Airport, Evansville, Indiana, is offering an "Airman's Directory" to friends and customers who come in to their base at Evansville. Designed for the pilot and including information of use to him, this booklet is pocket size and can be hung on the throttle where it won't be in the way but will be handy for instant . . . . and constant . . . . use.

George W. Haldeman, veteran pilot and CAA official, has been appointed Director of the CAA's Aircraft Service. Mr. Haldeman succeeds Charles F. Dycer.

The CAA recently announced that Earl F. Ward, veteran CAA air traffic control official, has been loaned to Chicago to serve as expert in planning traffic control for the Chicago area. Mr. Ward will work in the office of Mr. Ralph H. Burke, consultant to the city in its airport program. He will study and make recommendations on air traffic patterns and air traffic operations, both on the ground and in the air.

A complete line of cleaning equipment and chemicals for both production and maintenance are now being offered to aviation service field by the Detrex Corporation of Detroit, Michigan. Products to be marketed include: Solvent-vapor degreasers, parts washers, cleaning tanks, non-inflammable degreasing solvents, alkali cleaning compounds, detergents, emulsion cleaners, paint strippers, spray booth materials, masking compounds and shampoo-type cleaners.

A new edition of Flight Information Manual, containing 236 pages of data needed by pilots, is now available. It may be purchased for $1 from Superintendent of Documents, Gov't Printing Office, Washington 25, D. C.

**EXEC FLEET** owned and operated by Cities Service Oil Co. totals 12 planes. Pictured here are Ercoupe, Navion and Lockheed 12A. Others include twin-Beech, DC-3, Cessna and Lodestar

# RAINBOW Flight

**HOOVER DAM** from 40,000 feet looks like a tiny connecting link between Lake Meade and Colorado River (lower left center of photo). Colorado River (below) looks like thread winding its way through deep gorges of the Grand Canyon

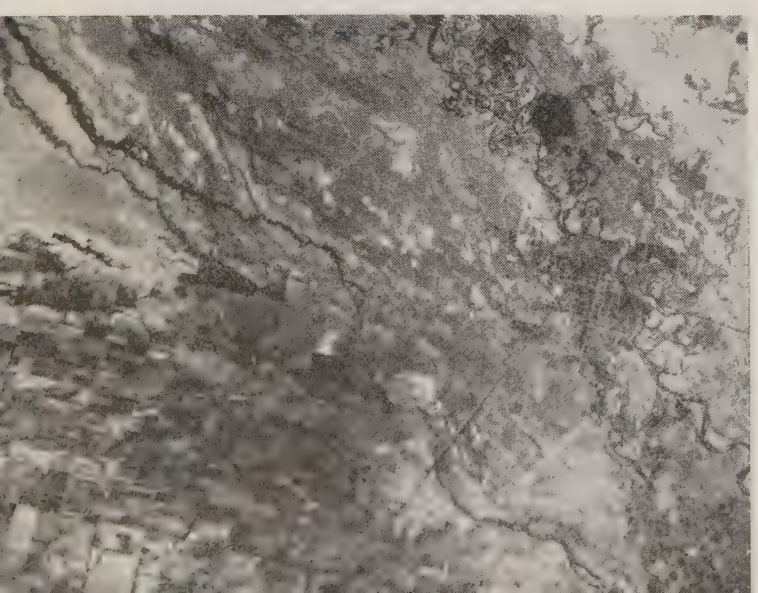
***USAF Rainbow crosses U. S. at 40,000 feet on a pix-taking mission***

FEW people can claim they've viewed the United States from a distance of 40,000 feet . . . and that distance straight up. The crew on board the Air Force's Republic XR-12 *Rainbow* can make that claim, however. Recently the first complete coast-to-coast aerial photographic coverage of the U. S. was accomplished by the Air Materiel Command Headquarters Photographic Laboratory . . . and in a single flight.

In this historic flight, made in an XR-12 from a point in the Pacific Ocean near Santa Barbara, California, to Mitchel Air Force Base on Long Island, N. Y., AMC photographers shot 325 feet of film for a total of 390 individual photographs.

**ALAMOSA,** Colo., from eight miles up looks like this (below). Flight across U. S., 2,700 miles, took seven hours

**KANSAS CITY** from eight miles up (and with temperature 50 degrees below) looks like this. Note Missouri River



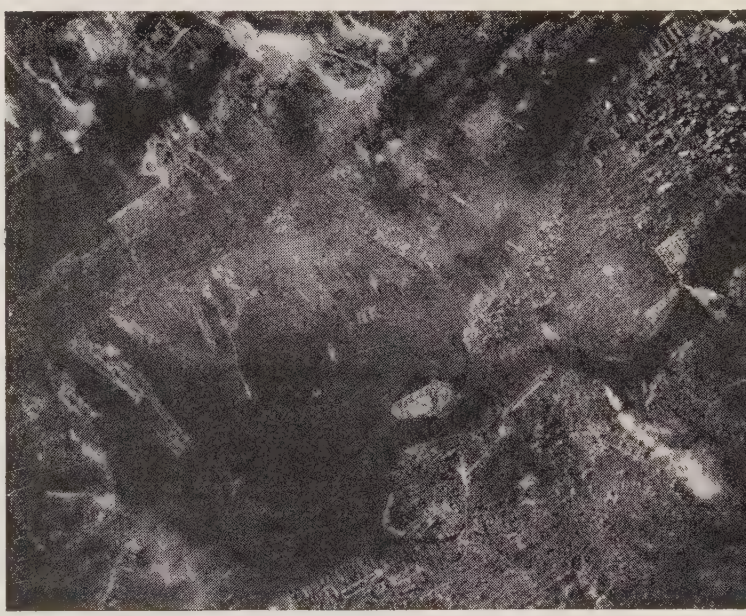
**USAF'S RAINBOW** was designed for photographic reconnaisance work. The area of Manhattan, surrounded (below) by industrial sections of New Jersey, Brooklyn, Queens, covers, camera-wise, an area of 130 square miles

During the 2,700 mile flight, three six-inch K-17 cameras, positioned so that their simultaneous operation recorded the terrain from horizon to horizon, were operated every 50 seconds.

The tri-metrogen installation utilized A-9 magazines and 400 feet film loads. The flight, made in seven hours, was at an altitude of 40,000 feet and the average speed of the plane was 375 mph.

The tri-metrogen arrangement of cameras consists of a center camera mounted vertically and flanked on either side by another camera mounted 60° off the vertical. One single photo taken by the vertical camera covers 130 square miles.

Pilot on the flight was Capt. William Elliott of Dayton, Ohio. Copilot and navigator was Major Delbert Mc. Clark, of Barton, Md. Other crewmen were T/Sgt. Richard Wing, of Battle Creek, Mich., M/Sgt. Jack Sowers of Rockwell, N. C., and M/Sgt. W. E. Shaw of Hillsboro, Ohio. +++



**RIDGES** of the Allegheny Mountains in central Pennsylvania create an interesting pattern from eight miles up

**COLUMBUS, OHIO** had its picture taken, too. Crossed lines in center of photo are runways at city airport

**HUNTERS** flew from Los Angeles to Whitehorse in the Yukon Territory in a DC-3 operated by the Shades. Party stayed overnight in Whitehorse, then rode rest of the way to the hunting camps in the interior via trucks

**HUNTING PARTY** that came in by plane numbered 14 men. all business or professional men aimed at bagging their quota of such big game as elk, caribou, lynx, etc. Each carried a Springfield rifle equipped with a sporting scope

# YUKON HUNTERS

## By EDWIN L. CARTY

***As told to Tamara Andreeva***

SEATED comfortably in their bucket seats in the DC-3, my nine hunting companions were cosily munching on pieces of fried chicken. There was nothing else to do, except possibly clean their guns, on the flight from Los Angeles to Whitehorse, in the Yukon Territory, where we were to make our overnight stop. It was 6 A. M. on a Saturday, and Carson Shade, our pilot, had promised us that we would be in the big-game (mountain bighorn and grizzly, or elk, lynx, caribou, wolf, and lion) hunting country around Lake Teslin, not far from Juneau, by that night, weather permitting. Flying over those heavily-wooded mountain humps was thrilling; only a few years ago this was passable only to a horse or pack mule.

While the others were stuffing themselves on fried chicken, I was busy with my 30.06 Springfield rifle. Mine is equipped with a two and a half-power Lyman Alaskan scope. Scope-sights and glasses or sporting scopes are almost a must in this rugged terrain. My lens is specially treated to eliminate glare. I use 180 grain bullets and in my opinion the Springfield rifle is one of the finest all around big game guns made. It is also preferable because there is probably more ammunition of this caliber available than any other, at most places I have (*Continued on page 50*)

**FISH,** too, were plentiful. Weighing up to 30 pounds, these fish are in abundance in the lakes of that region

**INDIAN GUIDES,** native to the Territory, are skilled hunters, for wild game is their chief means of livelihood

**COMPASS CHECK**—Choosing level site and using straight-edge board along which to paint lines, the author trues up straight-edge with astro compass. Using compass rose, ship should be checked in level-flight position (below)

# *Know your*

**LINE-UP**—After tail is aligned with rose direction line, line up ship's nose. Read compass with engine running

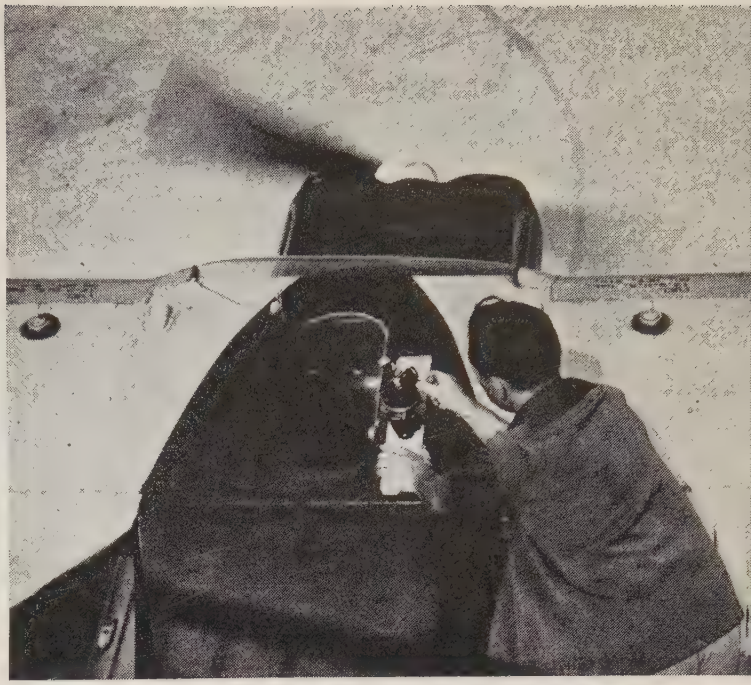
***Maybe your X-C's are ragged because your plane's compass is inaccurate***

# Compass...

By ROBERT F. SANDERSON

DURING a decade of private, commercial, army, and airline flying, I frequently have been appalled at the crudity of cross-country navigation methods in general use. Amateur and commercial pilots alike, who can skillfully solve complicated wind vector problems on CAA exams, seemingly toss all this valuable technical knowledge out the cockpit window the moment they climb into a ship, and subsequently reach their destination by following railroads, highways, and rivers, occasionally straigtening themselves out by buzzing railroad stations to read the town name.

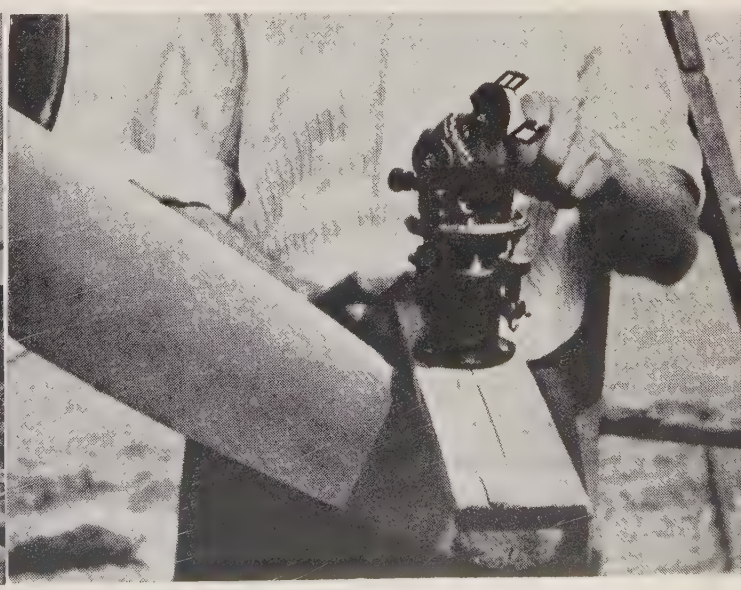
This unfortunate state of affairs is, in the opinion of the writer, due primarily to the excessive inaccuracies of compasses in general use. True course can be measured, variation taken off the map, and the wind (*Continued on page 47*)



**FLANGED LEVEL**—If ship has no flanged level to use, lay straight-edge along longitudinal markings such as those on horizontal stabilizer (below). Electrical equipment affects reading so have the engine running during check

**ASTRO CHECK**—If compass is being checked with astro compass, mount the astro on short straight-edge board

**ALIGNMENT**—Align astro compass with flanged fittings parallel to longitudinal axis of ship, then level it

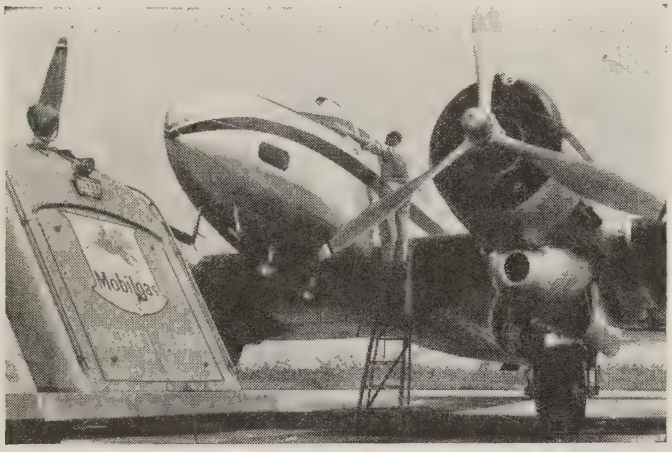


# EXECUTIVE SERVICE

***Key to increase in business flying is better service at fields***


## By CHARLES F. IRONS

*Vice President Snyder Aircraft Corp.*


**SERVICE** that visiting aircraft operators expect and should get includes cleaning windshield, whether it's on a corporation DC-3 or a business Beech, and sweeping out the cockpit, dumping ashtrays, checking tires

**BUSINESS FLYERS** patronize fields offering the best service. When Mr. Executive leaves his ship, he wants to know it's in good hands, will be serviced with gas and oil, and be ready for take-off at a specified time

EXECUTIVE aircraft is the term given a group of planes traversing these United State days in and day out, with stops at all way points large and small. For the most part we think of executive aircraft as that type which falls in the DC-3, *Lodestar* and Twin-Beech class. However, for the purpose of this article, we wish to classify all airplanes used by individuals or corporations in their business activities as executive aircraft.

Here then is the group of flyers that are utilizing their wings for better transportation in the performance of their commercial endeavors. This is the group that will continue to use the airplane in increasing numbers as the years go on, and for that reason will become the backbone of our non-commercial plane industry, supplanting the Sunday flyer.

The executives or just plain business people flying in these aircraft demand the ultimate in service from the airport operator or service operator on the larger municipal airports. They expect to get it—and are entitled to it. A study


**TRANSPORTATION** to town is the vital "extra" in service that will pay off in better customers and more of them

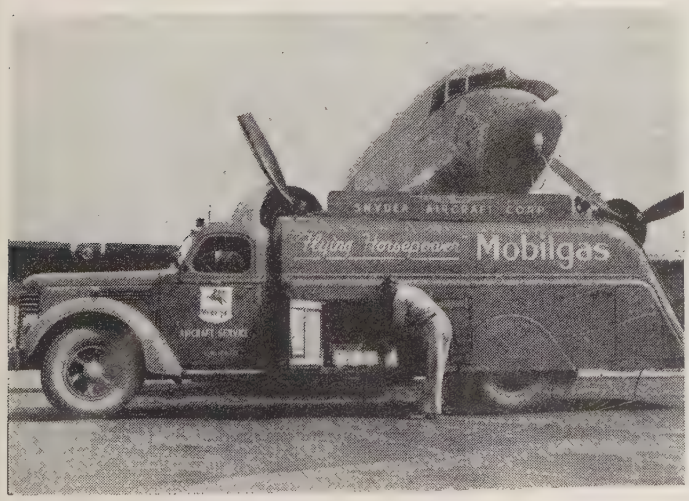
of the large city airports, most frequented by this class aircraft, shows one or more good service operator at each field who is in a position to offer the services these planes require.

Let us drift off into the realm of fancy for a minute and see what might be the maximum expectation. Here's Utopia:

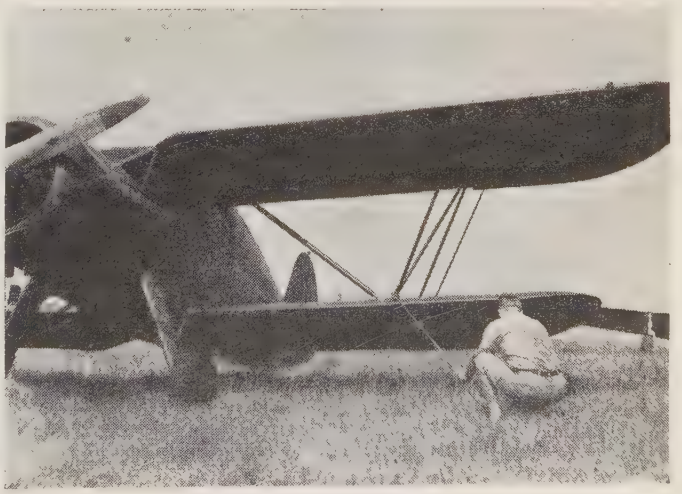
Two miles out we call the tower and after receiving the necessary landing instructions, we ask for the airport location of X Service Company, our destination.

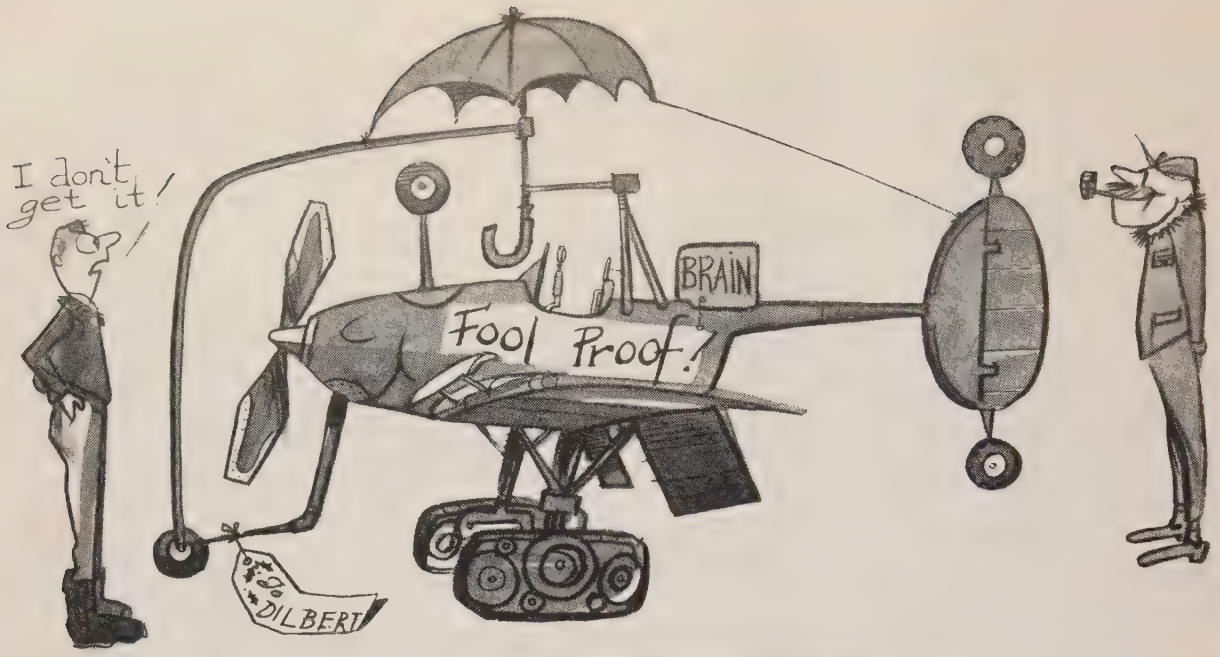
Upon landing, we taxi to X Service Company's hangar, where a line boy directs our plane into position near the hangar. The cabin door is opened by another attendant and he reaches into our luggage compartment for the suitcases and bags. In the meantime, a sparkling clean station wagon (*Continued on page 45*)

**EXECUTIVE PLANE** operators whose ships are in the DC-3 class must be able to buy gasoline in large quantities




**TIE DOWN,** if not done properly, can wreck a plane. A good service operator knows how . . . and his men do, too






# DILBERT

## By Seth Warner and Robert C. Osborn

**Double Trouble** — Local papers some time ago made quite a fuss over a "clever pilot" who had an an engine failure while night flying. He was at 4,000 feet a couple miles off shore when it happened.

Quote: "He didn't get flustered in this emergency. Without batting an eye, he headed for the beach. He calmly set his airplane down about 50 yards out and swam ashore, almost before the plane sank. Not bad, even by moonlight! We predict a bright future for this clever pilot.", unquote.

That ain't the way I see his future. Even without a crystal ball, it looks rather short and very wet, unless he learned a heck of a lot from this fiasco. I'll give you the background and let you be the judge.

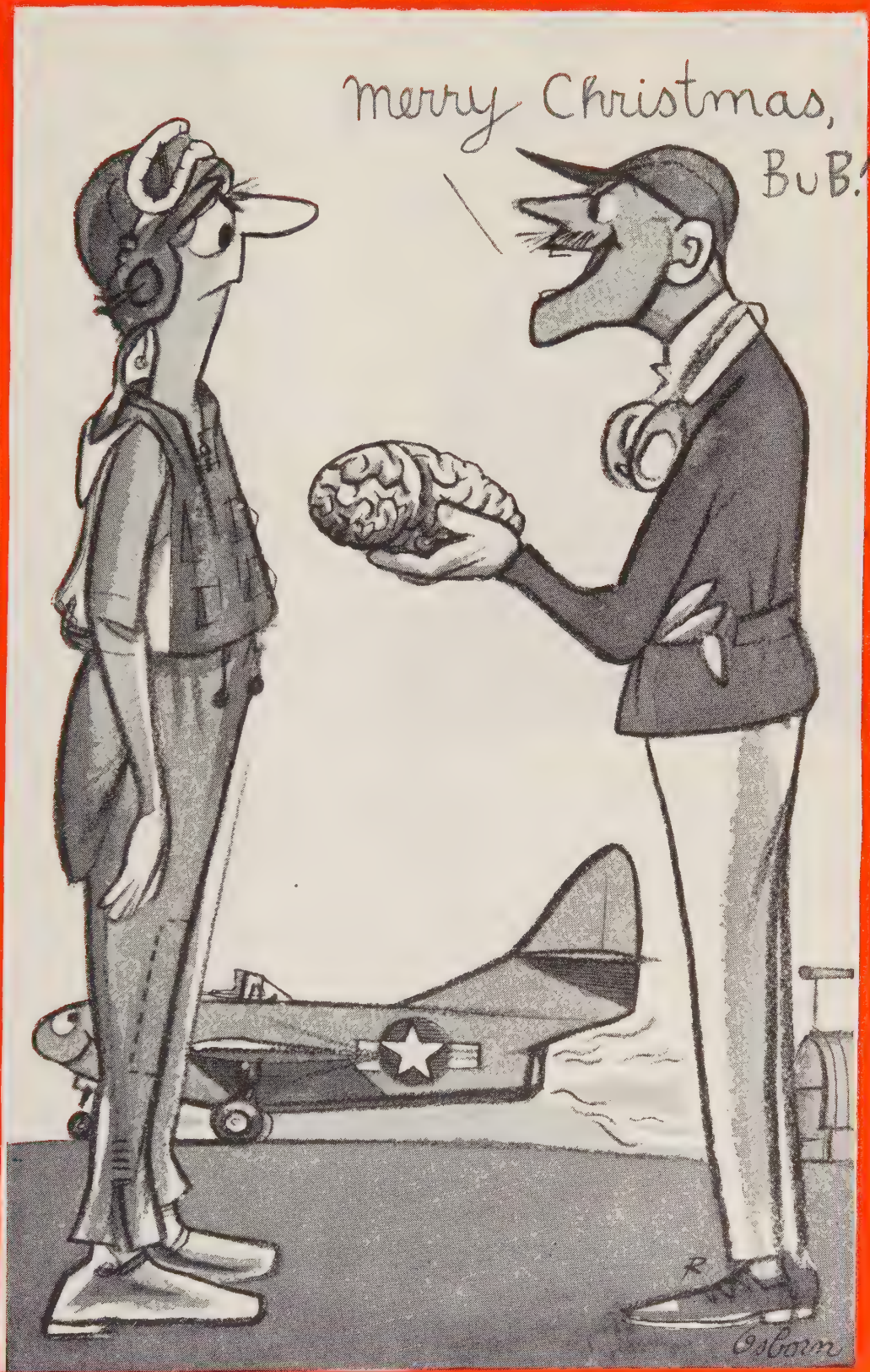
The morning of the accident the pilot had a deferred forced landing with this airplane. It was cutting out and vibrating. Being near the field, he nursed it in and had it checked. Spark plug leads were changed, plugs were tightened, push rods in number five cylinder were changed and a new cylinder was installed. The engine checked satisfactory when turned up on the ground.

The accident occurred approximately 30 minutes after take-off on the next flight. It doesn't take a Sherlock Holmes to dope out this one. Evidently no test flight was made within gliding distance of the field. Out over the ocean, instead. And at night, to boot. "Clever pilot," my eye!

Maybe this glowing newspaper publicity was sufficient recompense to Dilbert for the loss of his airplane. A much smarter type of publicity, however, is to become known as the oldest living aviator.


**Take-off Stalls** — This is an all-too-frequent type of aircraft accident and can be traced in most cases to an inadequate understanding of aerodynamic principals, or (too often the case)

(*Continued on p. 48*)




**Top present of the year . . . a BRAIN for Dilbert from Santa Claus**

# Only the best can be Aviation Cadets

*Have you got what it takes to become an Aviation Cadet in the U. S. Air Force?*

Aviation Cadets are a select group . . . only the best can make the grade. They are young men of ambition . . . young men of high physical and mental standards . . . young men who want to go places as leaders!

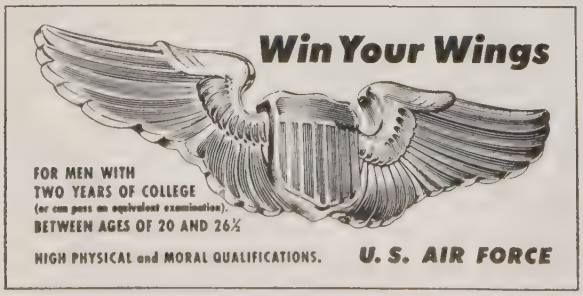
If you can qualify, you'll begin your training at a U. S. Air Force Base—Randolph, Perrin, or Goodfellow—where academic courses are combined with flight and military training. Within a month you'll be flying a T-6, the pilots' favorite trainer.

In a year you'll have your silver wings and a commission . . . ready for active duty with the U. S. Air Force.

And, if you finish near the top of your class, you'll get a regular Air Force commission. During your three-year tour of active duty, you'll get other good chances to win your regular commission—if you don't qualify immediately upon graduation.

You'll be paid while in training and, when you go on active duty as an officer, you'll receive over $4,000 a year.

Aviation Cadet training is a great opportunity for the best of young Americans . . . Look into it today. Get full details, without obligation, at any U. S. Air Force Base or Recruiting Station, or write: Chief of Staff, Headquarters, U. S. Air Force, Attention: Aviation Cadet Branch, Washington 25, D.C.




**U. S. Army and U. S. Air Force Recruiting Service**


## Low and Slow

*(Continued from page 19)*

We climbed to 11,000, opened a hinged map table, ruled a direct line across two CAA charts to our destination, slapped on a protractor, computed our correct compass heading, and turned on the auto-pilot. There was ample space for our two wide-necked thermos jugs, one holding a dozen warm cheeseburgers, and the other plenty of coffee. There was also an efficient if utilitarian toilet. Not bad, roughing it in the Air Force, plus flight pay, too!

Every so often one of us would take a quick look forward to see if the sky was still there. No one looked at the ground at all. Thirty minutes outside Indianapolis the radio man raised Stout Field and after a few more minutes the pilot took over the controls and landed. The wild blue yonder that the Air Force sings about didn't have a chance!

But what about the private pilot using a lightplane on the same flight. You would fly VFR (Visual Flight Regulations) all the way. You would mark check-points on the charts before take-off. You would fold the chart in small accordian pleats to open one segment at a time. You would fly between 1,000 and 2,000 feet above the ground and maintain a constant eye-roving search for the check points marked on the charts. Flying over strange territory you would have to be vigilant not to miss airport stops. Radio aids would be useless, of course. The large majority of the 90,000 American personal airplanes flying today are not equipped with radio.

Flying from Dallas to Indianapolis, in a lightplane, at least three and maybe four stops would be necessary. The new, highly advertised, increased cruising ranges for lightplanes only make me nervous. Any private pilot knows that the real cruising range of any personal airplane is only as great as the distance between comfort stations. And that's no joke, son, especially if the little lady is with you.

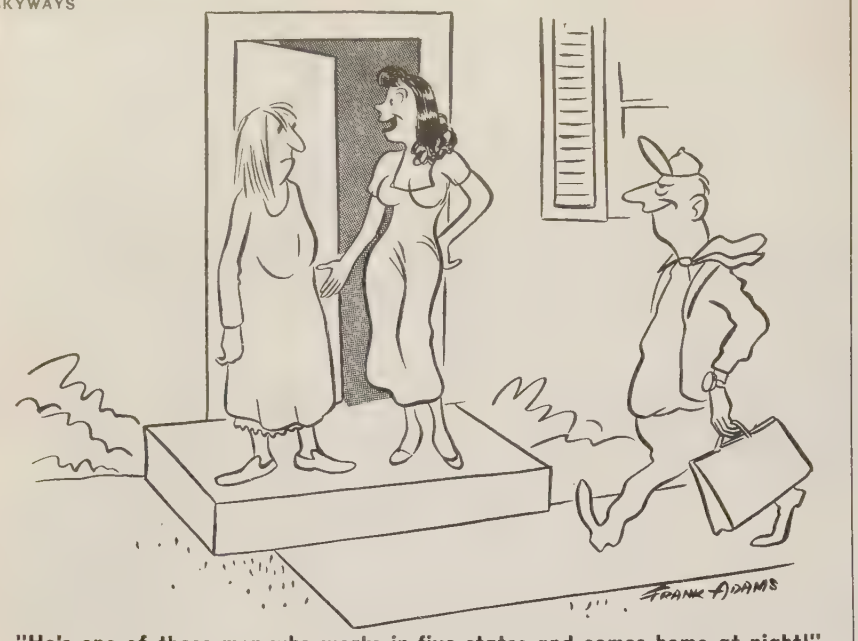
To the private pilot, using the average lightplane with few navigational instruments and no radio, cross-country flying presents a constant temptation to break the CAR commandment which forbids flying below 1,000 feet above the ground over congested areas. So you take off and climb to 1,000 or maybe 1,200 like a gentleman, hoping you are on course but unable to prove it; or else you say the hell with it and fly low and illegally to find out.

Low flying is dangerous. The chance of striking a building or terrain obstruction is always present. The slightest over-control, or slow reaction, at 100 mph, will plough you into the ground in the wink of an eye. But if you could jog along safely at say 30 mph, without fear of stalling, you would have plenty of time to avoid hitting Farmer Brown's big red barn. So the danger today exists not because you are flying low but because you are flying low—and fast!

Let's add that up. To maintain control we must maintain "flying speed" which in our present lightplanes, without wind, means 60 mph. Any speed under that invites a stall. With enough altitude under

*(Continued on page 43)*


Grumman
Designers
and builders
of
AIRCRAFT
★ ★ ★
THE GRUMMAN MALLARD
This sleek twin-engine amphibian for business, personal, and special Navy use carries 8 to 10 passengers. Designed for comfort and safety the Mallard provides swift transportation to remote locations on water as well as to established airports.
GRUMMAN AIRCRAFT ENGINEERING CORPORATION
BETHPAGE, LONG ISLAND, NEW YORK
Contractors to the Armed Services




"He's one of those men who works in five states and comes home at night!"

# Flying Newsroom

*(Continued from page 16)*

staffs it does appear paradoxical that a paper will spend good money to send reporters far from the home office apparently to duplicate coverage on a story, but the papers have spent years building staffs of expert reporters and star feature writers whose methods and opinions have become second nature to regular readers and to the editors themselves. These are the men the papers depend on and these are the ones they prefer to have covering important stories. All news has become "local" in reader interest with the growth in split-second communications and, especially in large metropolitan centers, nationwide coverage has become more complete. Editors cannot afford to have top reporters and feature men away too long, traveling to and from some distant event. It is entirely a matter of time—getting the best man on the scene and, after he sends in his story by wire, back with as much speed as possible. That is the function of the newspaper airplane and for the papers that have employed it well it has paid off in more than monetary terms.

The New York *Herald Tribune* plane passed its second anniversary of news coverage during the last week in August, but long before that it had settled into a steady routine of being on call for continental news coverage and executive transport. The *Herald Tribune* is profiting by the trail blazing of other newspapers in utilizing airplanes, but the final test of the worth of anything is not who did it first, but who gets the most out of it.

Admittedly, the air-mindedness of the Reid family, owners of the *Herald Tribune*, has been a big factor in overcoming some of the opposition which on other papers has stymied similiar investments in pioneering direct news coverage. Both Whitelaw Reid and his younger brother, "Brownie," are licensed pilots. But the *Lodestar* had to prove itself in service as worth the upkeep in the face of the cold figures of business office ledgers. Part of the success has been due to the groundwork in flying and maintaining the aircraft, and part to the efforts of the editors in making maximum newsworthy use of the plane.

During September of last year seven reporters boarded the *Lodestar* at Westchester County Airport, home base for the plane, and during the next 17 days traveled to all sections of the U.S., and Alaska to get answers to the question, "Can America measure up to new world responsibilities?"

A couple of weeks after the plane had returned, on October 23, the "Flying Newsroom" was covering the story of a 3,000-acre fire in the Ramapo Mountains only 50 miles from New York City. Then, two days after that, it flew a reporter-photographer team up to Maine to report on the fires devastating the Bar Harbor area. Two days later it flew Clementine Paddleford, director of the *Herald Tribune* Home Institute, to New Orleans to join 81 other newspaper representatives at the newspaper food editors conference.

The "Flying Newsroom" actually averages about 30 hours flying a month throughout the year, or over 70,000 miles of air travel. The plane has a rated top speed of over 250 mph, but it is usually cruised at 180 and on long trips at 165 mph for the most economical consumption of its 660-gallons gasoline capacity. At 180 indicated the average consumption is 90 gallons per hour and at 165 it is 70 gallons per hour.

As important as it is to have the full confidence of the owners and editors in utilizing a plane as big as a *Lodestar*, it is equally important that it have an expert flight and maintenance crew fully briefed on the importance of cost control. A large plane with high fixed costs can easily become too expensive to operate unless its crew capably keeps on top of costs all the way from flying to ground maintenance.

The facts of the behind-the-scenes operations of the "Flying Newsroom" can be as important to other newspapers as they are to the New York *Herald Tribune*. The lessons learned in flying the big news plane point a way for similiar use of large planes by other newspapers that have so far hesitated to employ them.

The *Lodestar*, powered by two 1,200-hp Wright 1820 engines, was bought early in 1946 and was specially outfitted for the newspaper. The rear compartment has four airline-type seats, while a lounge for three plus two other seats are installed in the middle compartment. A small forward compartment, just behind the pilots' office, is equipped with a single seat on the right side for press, secretarial and other uses, while the left side contains a small icebox and an electric oven for preparing food on long flights. Outfitting the plane with 10 seats, rather than the 17 or 18 found in *Lodestars* in airline service, gives more freedom of movement to passengers and also allows plenty of room for extra equipment and for a photographer to use a removable photo window in the right wall of the rear compartment.

The complete radio set-up includes two Bendix ADF's, a 100-watt RCA transmitter, a 15-watt, six-channel VHF set, one Lear battery receiver, an ILS receiver and a ship-to-shore radio telephone. An intercom between the pilots' and passenger compartment is also used for communications during photo runs, the photographer utilizing a jack plug connection alongside his window to call directions to the pilot. The plane meets full air carrier specifications for instrument flying with complete dual instrumentation.

The crew set-up of the *Lodestar* is especially versatile. Twenty-nine-year-old Lloyd Rondeau not only has been chief pilot since the plane went into service for the newspaper in June, 1946, but by virtue of an A & E ticket held since 1940 he is also chief mechanic. Rondeau, born in Trenton, N. J., began flying in 1936 and first worked for K-C Air Service, a New Jersey charter outfit, then went to Robinson Aviation, out of Lambert Field, St. Louis. After flying as chief pilot for Robinson in the CPTC program and also putting in two years as a crop duster, he joined the RAF Transport Command in November, 1941, as a civilian pilot, and for the duration made over 100 transatlantic ferrying flights, via both the North and South Atlantic.

Copilot and assistant mechanic Roy Bach, 35, is another RAF Transport Command veteran. Born and raised in Connecticut, Bach at one time operated Westone Flying Service at Stonington, Conn., in addition to instructing for other Connecticut operators. He joined the RAF in July, 1942, and after the war was a pilot for Trans-Caribbean, flying non-scheduled DC-4's coast to coast. Unusually enough, Bach was in charge of reconditioning the *Lodestar* before it was sold to the newspaper, but he first joined the flight crew this past June, succeeding original copilot Ben Wrobel. Rondeau and Bach each have over 6,000 hours in the air and hold all pilot ratings.

Westchester County Airport, at White

Plains, N. Y., is home base for the "Flying Newsroom" and all maintenance is performed under the direction of Rondeau and Bach. Regular Lockheed maintenance forms are followed for all inspections. The engines are rated for 700 hours service, but rather than perform required changes at Westchester, when they are deemed necessary, the plane is flown to Curtiss-Wright at Caldwell, N. J., where a completely-equipped reserve engine is always on standby. Since the plane went into newspaper service, it has required overhauls on individual engines three times, at approximately $2,500 each overhaul.

The full-feathering Hamilton Hydromatic propellers are operated 1,200 hours between overhauls with all maintenance done by Pester's Propeller Service at Garden City, L. I., which also provides standby props for the plane, similiar to the procedure followed with the engines at Curtiss-Wright.

All other maintenance is done by Rondeau and Bach at Westchester, with additional mechanics hired whenever necessary. A complete hand-cleaning of the entire plane is done by the two-man crew three or four times a year. Each cleaning requires three or four days. One of the contributing factors in keeping expenses to a hard minimum is the supply of spare parts kept on hand in a small shack alongside the plane's hangar. Extra flight surfaces, radio parts, flotation equipment, instruments, engine accessories and other spares picked up a low prices are part of the story in cutting upkeep costs. For another assist, all oil is bought in bulk in 150-gallon drums while fuel is bought direct from Gulf at the airport.

While figures are necessarily approximate, it is estimated that all the fixed costs for the *Lodestar,* including pilots' salaries, hangar rent and insurance, run to about $2,500 a month. Flying costs amount to about $100 per hour complete if the standard 30 hours a month average is attained. The monthly fixed costs are about 75 per cent of total costs, including depreciation.

When compared with several other newspapers operating executive-type aircraft, the manner in which the "Flying Newsroom" is used is different in at least one respect—the *Herald Tribune* executives have the lowest priority in requests for service and actually use it only 15 per cent of the time. Naturally, executive travel saves the newspaper normal fares and these might be matched against operating costs, even though the primary job of the plane is to carry working newsmen.

The city desk has first priority for the use of the plane at all times, and whoever is in charge of the desk may call Rondeau or Bach at the airport to have the plane ready to go. Any department may request the plane, but in case of conflict, Editor Whitelaw Reid, George Cornish, the managing editor, or Joe Herzberg, the city editor, determine who gets first call.

When the plane is assigned to a trip, Rondeau makes out a special *Herald Tribune* flight plan, usually in duplicate so that if the same flight is made again at some later date all the headings are in the pilot's file. The plane is normally ready to go anywhere in or out of the country.

Beginning with the Cleveland Air Races in 1946, the "Flying Newsroom" has carried reporters and photographers on such diversified projects as a five-state tour of the meat industry, a survey of the coal mining industry from West Virginia to Alabama to Illinois, to a centennial celebration in West Virginia, followed by a flood story in Vermont, aerial photo coverage of the New York to Bermuda yacht races in 1947 and 1948, and the Mississippi flood and flood-control areas. It not only transported a special cacti exhibit from Arizona to the International Flower Show in New York this past spring, but earlier it carried the winners of an essay contest among *Herald Tribune* Fresh Air Fund children on a prize flight around New York. Executives have been flown to important conferences, routine aerial pictures have been made of scenes at suburban New York race tracks, groups of writers and photographers have covered special celebrations over most of the Eastern half of the U. S. and the *Lodestar* has even trailed a breaking news story to Halifax, Nova Scotia, opening a clear news beat for the *Herald Tribune* over all competing newspapers.

The lesson for other papers and business organizations in the operations of the "Flying Newsroom" is that it is a normal arrangement for using an airplane to carry on the usual functions of a newspaper organization. The copy desk on wings has a place on the paper's payroll.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# To Paint or . . .

*(Continued from page 22)*

of one coat of primer and one coat of enamel applied to a four-place plane may vary between five and eight pounds and on planes as large as a DC-3 may amount to about 50 pounds. According to experienced operators the difference in speed might go as high as two miles per hour, either up or down. "if any owner can be sure of that kind of before-and-after difference."

Another question: "Don't most paints fade after a while?" Strong sun does cause deterioration in the color properties of some paints, but that's just the reason for emphasis on the word "dependable" used earlier in mentioning the type of paint job needed. The prospective paintee would do well to check not only with the manufacturer of his plane to get a list of the recommended types of paint to be used on his particular aircraft, but he should also ask the operator who's going to do the painting for a look at a previous paint job done in the same shop. Most reds and blues fade slightly after long exposure, but if the operator uses high-quality products the possibilities of fading are comparatively slight for most standard colors.

Getting down to specific cases, here's the way the painting problem can be worked out for different types of representative all-metal planes. Since labor costs in the northeast section of the country are conceded to be as high or higher than other parts of the nation, and they are the greatest portion of any maintenance bill, it would seem that prices found in that area would set a top limit on what typical paint jobs done by independent services should cost. Actually there is not too much variation with other areas, but the point is worth making in case of seeming discrepancies in estimates by different shops, although prices would also depend on opinion as to the condition of the airplane surface and how much cleaning it would require to prepare it for paint.

Most of the following information emphasizes the treatment for the Beech *Bonanza*, Ryan *Navion* and larger planes up to the DC-3 class, so that they serve as guides for estimating work on any aircraft in similar or intermediate-size classes, whether privately or company-owned. The *Bonanza* and *Navion* were both chosen in the four-place class because their respective manufacturers have done the most to advance the idea of painting all-metal craft, while the DC-3 is the largest type that a corporation owner, for instance, might want to paint and the cost of maintaining the big Douglas should set a good mark for all twin-engined all-metal airplanes.

Mallard Air Service, Inc., at Teterboro, N. J., is a representative Ryan dealer and the source of information on the *Navion* and on their own independent painting and cleaning. According to Mallard, a Ryan factory paint job at the San Diego plant costs $350, witha choice of four colors and trims in glossy enamel finish: maroon, green and blue, all with cream trim, and tan with red trim.

Mallard's own shop will paint *Navions* at Teterboro at prices ranging form $200 to $375, with an average of about $275, depending largely on the condition of the aircraft before painting and the type of job and color scheme required. This includes a coat of zinc chromate primer and a top coat of enamel or pigmented lacquer. At the time this survey was made Mallard had several planes in its service area that demonstrated the work possible. One striking contrast was afforded by two *Navions* parked together, one an aluminum-pigmented plane with red striped trim and the other an unpainted *Navion* except for the conventional top cowling color and fuselage trim. At a distance the planes looked identical, but close up the unpainted plane looked slightly dingy and in need of a cleaning, not because of any obvious direct traces, but by comparison.

As far as cleaning prices go, Mallard estimates that waxing and polishing an unpainted *Navion* ranges from $60 to $90 depending on the amount of work required, while a complete airplane wash costs $7.50.

Further up the field at Teterboro, Atlantic Aviation Corporation explained the situation as far as *Bonanzas* and D-18S's are concerned. The word there is that Beech Aircarft will not factory paint any *Bonanzas* after manufacture because it is impossible to flat-rate the job—they tried it once. However, prospective *Bonanza* owners may order a painted craft in advance of assembly at an added cost of $275, in any number of possible color combinations prepared by the company. The basic colors to choose from include red, green, blue and cream, and the complete job includes one primer coat and two coats of synthetic enamel.

For those *Bonanza* owners who have previously purchased unpainted *Bonanzas*, Beech recommends a coat of zinc chromate primer followed by a top coat of any color desired of 83 Dupont Dulux enamel done by any maintenance base with a good paint shop. All magnesium parts on the *Bonanza* have been given Dow treatment at the factory and require only a good cleaning before painting. If aluminum-pigmented lacquer is used for the top coat, Beech suggest that it correspond to Spec. AN-L-29.

As far as Atlantic is concerned, it does not wish to do any all-over aircraft painting in its shop because of the difficulty in controlling dust and humidity. This covers orders on both *Bonanzas* and the DI8-S, although it does not rule out the usual paint repair or special trim jobs. During the winter, when hangar doors may be closed and dust is no longer a factor, Atlantic says that it may consider jobs.

Atlantic no longer will clean planes in its shop since they found it impossible to schedule work crews adequately, but they do permit their mechanics to contract individually for work on their own time using Atlantic's service area for this purpose. At the time of the survey one of the mechanics had just completed cleaning an unpainted *Bonanza* in average condition. The mechanic quoted a price of $40, but prices are naturally subject to both aircraft condition and competitive bidding among the mechanics who must figure on how much spare time they wish to give up for the purpose. Cleaning and waxing

*(Continued on page 49)*

SKYWAYS

"Aw, come on, Clara—it's my turn for hood time!"

# Low and Slow

*(Continued from page 38)*

your wings stalling in itself is not a dangerous maneuver; you either spin for a turn or two before recovery is accomplished or else mush down until you regain flying speed. But in either case you use up altitude and when you haven't got enough altitude stalls *can* be dangerous.

But *I* want to fly slowly—with safety. I would prefer a lightplane with a 20-mph safe minimum speed than one capable of a 120-mph top speed. I do not make that statement blindly; I am aware of the design ratio that exists between landing speed and top speed. I am also aware of the fine job the engineers have done to improve that ratio—toward the speed end. The *Douglas DC-6* and the *Constellation* have a landing speed of about 90 and a top speed over 300, a ratio of 3 to 1. That is much better than my personal plane which in zero wind lands at 50 and has a top speed of 100, a ratio of only 2 to 1. I think it's time the engineers improved that ratio—towards the slow end.

Most of our lightplanes today started out right but gradually became victims of increased horsepower that did nothing (excluding built-in ash trays) but increase their top speed and their price. *The records show that the 1947 landing speed for small private airplanes is the same or slightly worse than 1937 and, believe it or not, than 1927 which was the year Lindbergh flew to Paris!*

The ability to fly slowly, of course, would increase the margin of safety in flying. Nowadays, if your lightplane develops engine trouble, you must maintain at least 60 mph indicated while you search hurriedly for a place to sit down. The little job I dream about, with a slow safe speed of 20 mph, would certainly pay dividends if it became necessary to make a forced landing. At 20 mph you would not only have more time to look for a reasonably safe place to land, but at that speed you would have an excellent chance of walking away from the landing.

More and more the need for personal aircraft incorporating safe, slow flight characteristics is being recognized. Recently, John Geisse, famous aeronautical engineer and pilot, and formerly CAA Assistant Administrator for Personal Flying Development, told the Society of Automotive Engineers that "We now carry around sufficient power in our small airplanes to be able to get down to 15 mph if we could only use the power for this purpose. It would give the airplane a performance approaching that of the helicopter which can and does use almost full power to stand still in the air. With such performance it would be possible to proceed safely in weather in which flying at our present minimum speeds is too hazardous."

Of course, flying slowly is not new. Wilbur and Orville Wright did it; and many of the early pioneers whose airplanes utilized other basic design features (Flaps, pusher-prop installations, slots, tricycle landing gear, etc.) that some of our smartest personal aircraft manufacturers are gradually readapting for current use. So be patient; we'll get slow-speed airplanes yet, I hope!


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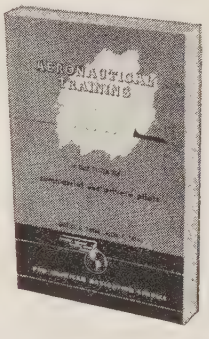


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# Pilot's Report . . .

*(Continued from page 26)*

NC449IB came out just before this change and so taxiing was controlled with the toe brakes. Visibility on the ground, as in most tricycle gear planes, was tops—except for the ground layer of Southern Cal. smog.

We made a pre-flight run-up, then called the tower for take-off clearance. (No headset-earache here! A good cabin speaker is installed on the roof of the cabin.)

"Beechcraft Nine One Baker, you are cleared for immediate take-off," boomed the Burbank tower. "Climb on a heading of two-six-zero and call the tower when on top."

Sunny California and an instrument clearance yet! The smog restricted visibility to a scant mile and the far end of the airport was barely in sight. Overhead, however, the sky was almost blue.

There's plenty of torque on take-off, and the Beech has no rudder trim. However, the fully-loaded plane hopped into the air easily and we were busy with the gear, throttle and prop controls as we crossed the end of the runway. The *Bonanza* controls are very sensitive and most pilots new to the ship tend to overcontrol, but you can overcome that tendency in a hurry.

When the ship was finally trimmed out, we turned to 260° and chased the needle and ball around as we climbed up through the smog layer. On top, a DC-4 waited to approach Burbank until we called in above the smog at 2,500 feet.

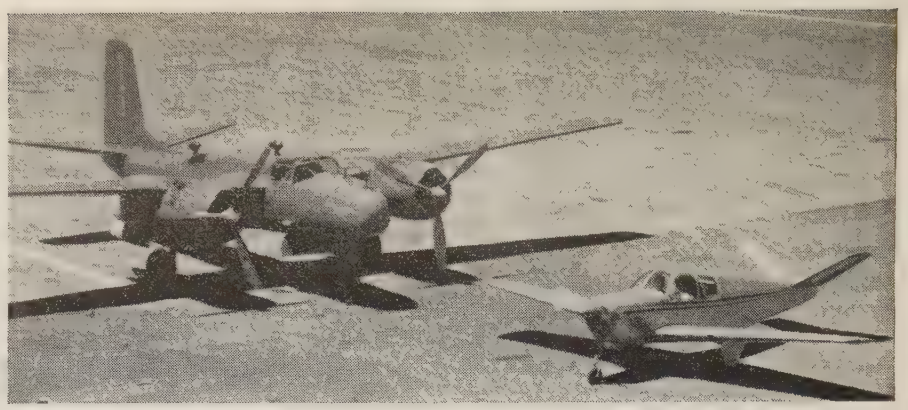
We climbed steadily at an indicated 120 mph. This was faster than the most efficient climbing speed, but the day was hot and we saw no reason to hang the *Bonanza* on its prop and increase engine temperatures. The large cowl flaps were fully opened during climb.

The only real improvement we'd make in this ship has to do with ventilation. With all the air scoops open, it was still a little hot and stuffy in the cabin. On the ground, windows may be opened for fresh air, but once the *Bonanza* is airborn, placards on the windows warn against opening in flight. The low cabin noise level of the *Bonanza* is out of this world, with both engine and wind noises reduced to a remarkable level. The *Bonanza* is every bit as quiet as the best airliners.

At 9,000 feet we trimmed the *Bonanza* out and whisked over the Ridge Route at an IAS of 144 mph. We were pulling full throttle; that's 20½ inches at that altitude and turning 2050 rpm. The advertised TAS of 175 mph seems quite in line.

One of the many tricky innovations on the *Bonanza* is the Vernier throttle. It's a two-control throttle that works in a conventional manner so long as you push down on the button on the head of the control. Leave this button out and you have to turn the throttle like an automatic screwdriver to control the power.

Over Bakersfield we tuned for the latest Bay City weather. The CAA man on the phone reported lowering scattered clouds with temperatures nose-diving toward the dewpoint. After a four-way confab in the cockpit, we decided to head for the picturesque seaport town of Carmel and the Monterey Airport. After all, this was merely a fact-finding flight and there was no percentage in making an unnecessary instrument let-down in an unfamiliar airplane.



**BONANZA,** with Downie at the controls, taxies to hangar at Reno's Hubbard Field. The A-26 in the background has been converted for corporate use and is owned by Kaiser-Frazer Co.

We cruised leisurely up the Cuyama Valley toward Monterey Bay and saw the heavy coastal fog only after we had let down to 3,000 feet. The nearby Salinas Airport was half-hidden under a broken ceiling that was moving in fast, so again we changed course.

Since San Francisco and Oakland both reported marginal weather, we elected to land at San José for gas and then continue on to Reno, Nevada, where there is seldom any fog. After circling the Reid-Hillview sod field once to slow down to 100 mph, we dropped the gear and landed. Our flight time from Burbank, including two changes of course and destination; was only two hours and 13 minutes.

At San José we climbed from sea level to 10,000 feet in less than 19 minutes. Since there remained plenty of daylight, we decided to add to our tour of the West and take a look at Lake Tahoe and the 6,230-foot-high Sky Harbor Airport.

The flight from Sacramento to Lake Tahoe is "off-airways" and a thing of fall-tree-and-snow-spotted beauty even in the early fall. However, there is a 10-minute stretch where practical forced landing spots just don't exist. The smooth-running 185-hp Continental kept right on purring along and we tried to ignore the terrain below.

Over Lake Tahoe the air was gusty and whitecaps dotted the blue water. We spotted the airport from across the lake and circled slowly. The wind "T" said to land downwind and uphill, but the wind sock was standing straight out—a good 20 mph. We made another wide circle, held a pilot's conference and then dropped the gear. We headed toward the field upwind, against the "T" and came in over a high growth of pine trees.

In the gusty air, we came in "hot" and floated to the end of the 1,400-foot paved apron before touching down. The field is 4,000-feet long and the *Bonanza* jolted to a stop on the meadow long before we reached the end of the field. There is a casino and cafe across the highway from the airport and Manager V. L. Waters charges $1.00 landing fee.

Take-off from this high-altitude Tahoe field was interesting. We taxied way up to the far corner of the paved take-off strip, ran up the engine and dropped 10° of flaps: there's a painted line on the flaps at their most efficient take-off position. We set the brakes, eased on full throttle (only 20 inches of manifold pressure at this altitude) and climbed off the brakes. It took full right rudder and a touch of right brake to hold the *Bonanza* straight down the runway. With a later model incorporating a steerable nose wheel, this take-off torque should be much less noticible. We pulled the *Bonanza* into the air a little over half way down the narrow runway and had the gear up as we crossed the two tall trees adjoining the beach.

The hop from Lake Tahoe to Reno is just a quickie. It's one of those little hops that makes you really appreciate an airplane as you watch the highway painfully twist, turn and climb over the ridges below. Front-seat visibility over the leading edge of the wing is quite adequqate but rear-seat passengers are limited to the view in front of or behind the wing.

Even before we had time to get the *Bonanza* trimmed out for cruising, Reno was in sight. We unscrewed the throttle and dropped the nose. The *Bonanza* is such airplane that the slightest dive makes the airspeed needle move right up past 180 mph. Much of the flight performance of this pint-sized airliner is comparable to the old reliable Douglas DC-3.

We circled the green pastures of "the biggest little city" and then headed for the 4,340-foot-high Hubbard Field. Long paved runways, flanked by obstruction-free approaches, make landings here a pleasure.

There's no point in flying to Reno without doing the down, so in we went.

The four of us departed from Reno the next noon and headed back toward Los Angeles by Owens Valley and Bishop.

The weather was hot and bumpy and, after a short time in the air, we decided to break the homeward flight and land for a breather at the trout fishing resort of Arcularius Ranch. *(See "A Weekend Shangri La" SKYWAYS October 1947.)*

Presumably due to the absence of a conventional rudder, the *Bonanza* will yaw in rough air. No matter how quickly the pilot reacts, the nose will swing from side to side. Backseat passengers notice this yawing more than the pilots.

We landed upwind and uphill on the 7,000-foot long Arcularius strip. A company Douglas DC-3 was parked at the

*(Continued on page 46)*

# Executive Service

*(Continued from page 35)*

pulls up to the side of our ship and the X Company service manager steps out, welcomes us to his city, asks our plans and directs his men to put our luggage in the station wagon. One attendant goes over a carefully prepared "checkoff" list with our pilot, marking down all special services required, and hands him a copy, while another offers us a booklet showing best entertainment in the city, good places to eat and things of interest to see. The service manager upon hearing we have no hotel accommodations quickly withdraws to his office and after two phone calls comes back with the good news that we have a room for the night. One of our party is going out to a suburb for the length of our stay, so he takes a Rent-a-Car—a service that is a separate part of X Company's facilities. Knowing full well our ship is in good hands and will be ready for departure when we are, the rest of us are whisked off to a nearby taxi stand in the station wagon.

The night before our departure we receive a phone call at our hotel from the X service manager, advising the weather conditions for the morrow, and inquiring as to our destination and time of departure. The following morning their station wagon picks us up at the hotel and takes us to the airport. Upon arrival we board our plane to find new aeronautical charts and a protractor, compliments of X Company; also an appetizing looking lunch prepared by their commissary. The pilot simply signs a ticket for services rendered, after showing his credit card, and before you know it we are taking off for the next stop on our cross-country business schedule.

Seriously, this type of service is *not* completely fantastic. We know from the standpoint of good business practice that the present volume will not support it without having to charge excessive prices. But nevertheless it is something to think about, and we here at Snyder Aircraft have set our sights in that direction.

We have had printed a chart or layout of Chicago Municipal Airport showing the runway system and our hangar location, with the thought in mind that one of the most serious problems confronting the executive aircraft flying into a large busy airport is the parking problem.

This chart, together with an outline of our solution to the problem, has been direct mailed to all executive plane owners.

We feel that the solution lies in the service we can render, if the aircraft operator will simply taxi to our hangar. Upon arrival there, our attendant will transfer the luggage to our station wagon, which is available for transportation to the nearest taxi or bus depot. The flyer receives a parking receipt from us and his worries are over. We do the rest! Pursuant to his instructions, we will carry out any particular service he requires besides the standard gratis services that are normally performed, such as cleaning windshield and windows, sweeping out the interior of the ship, inspecting tires for under inflation, etc. His

*(Continued on page 50)*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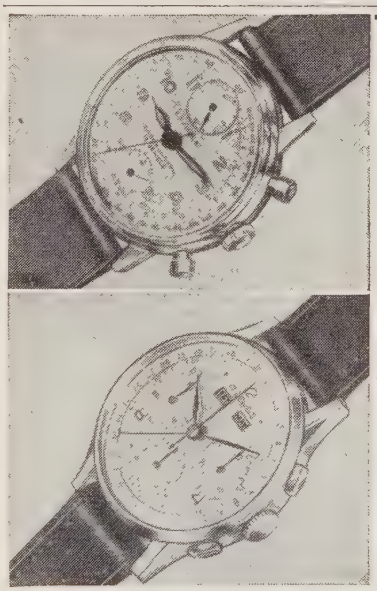

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# Pilot's Report . . .

*(Continued from page 44)*

head of the strip, so we taxied alongside.

Take-off late that afternoon was something else again. There was a gusty 30-mph wind, 45° off the runway from the left on an uphill take-off. There was a high ridge just beyond the upwind end of the runway and both turbulence and downdrafts could be expected. We debated the various merits of a downwind, downhill take-off and finally decided to follow the lead of the executive DC-3 that had departed uphill.

Again there wasn't enough rudder to hold the plane on the narrow runway as we picked up speed. Crosswind plus torque exerted more force than the rudder would counteract, and it was necessary to touch the right brake a couple of times during the early stages of the take-off. We consumed at least half of the strip before the plane was pulled off the ground just above flying speed. The stall-warning device glared in our faces, but because of the rough graveled surface, it seemed better to pull the plane off the ground to get away from the drag of the sandy field and also to protect the prop from possible gravel nicks. Once the ship seemed completely airborn, we snapped the gear switch up.

Only then did the *Bonanza* hit the downdraft on the lee side of the pine-covered ridge. The little ship quit climbing for a couple of heart beats and we stopped breathing for the same eternity as we tried to coax another inch of manifold pressure out of the already-full throttle. As the airspeed picked up and the plane began to climb out of the downdraft, we gingerly circled away from the ridge.

This take-off was made under the worst possible conditions: a full load of passengers, baggage, nearly full tanks and an up-hill take-off into an area of downdrafts from a soft, rough runway with a high crosswind. Even second-guessing, it is a question whether or not the downhill, downwind departure would have been preferable. Under normal conditions, however, the Arcularius strip is a cinch.

Once we circled the field, we picked up 4,000 feet in less than four minutes by ridge soaring, sailplane-style, up the face of a nearby mountain. With the *Bonanza* flown close to the strong upcurrents rising from the side of the hills facing the wind, we went upstairs like that proverbial homesick Angel.

The one hour and 53 minute flight back to Burbank was made at from 10 to 12,000 feet. The 14,495-foot snow-capped muzzle of Mt. Whitney slid by our right wing while the alkaline wastes of Death Valley were in sight over our left. The high-altitude performance of the *Bonanza* is so good that oxygen equipment, as an accessory, might well be installed.

We called the Inyokern range station on the Motorola for the latest weather and couldn't raise anyone. From over Inyokern, we called Palmdale 70 miles distant and received our weather report from him. The radio on this *Bonanza* worked well, but some sort of a range filter is needed for far-off reception of voice signals.

The weather was barely passable and we let down into the San Fernando Valley and the ever-present smog, finally picked up the Burbank tower operator, and made a strainght-in-approach.

According to the fuel guages, there was still plenty of gas after our flight from Reno without refueling. That hop, not counting the letdown, circling at Arcularius and the climb back to altitude, measured 395 miles on the map.

This two-day flight into two of the highest commercial airports in this country proved a good shake-down for this four-place plane. Yes sir, it's a peach of a Beech!

So many out-house rumors exist about the stall-spin characteristics of the *Bonanza* that we made another flight the next day just to find out the truth for ourselves. This hop was limited to slow flight maneuvers. With Jimmy Haizlip, famed winner of the 1932 Bendix dash, and a second passenger, we took off in NC659B from the Lockheed Airport in Burbank. Our only thought on this particular flight was to see if the *Bonanza* would spin out of a turn. We tried for nearly 30 minutes to get the ship to spin out of nose-high turns, stalls from steep turns, high-speed stalls—with and without the gear and flaps extended—and *never did wind up in a spin!*

True, the plane does not have the conventional control shudder. With its V-tail, the controls are above the burble that comes off the wing when a stall occurs. The Beech does not, however, fall off without warning. The stalls break faster than in any four-placer this reporter has yet flown, but they also may be stopped faster by the quick-acting controls. The slightest forward pressure on the control column puts the airplane back flying, right now!

In straight-ahead stalls, unless the needle and ball are meticulously centered, the *Bonanza* will drop a wing. In a stall out of a steep turn, power on, the plane quits flying at less than 60 mph indicated, but flying speed may be regained by the time the wings have rolled level merely by releasing a little back pressure.

These experiments were made about three miles off the shoreline at Santa Monica, at an altitude of about 9,000 feet.

As a clincher to further prove the easy-handling characteristics of the new *Bonanza*, Jimmy Haizlip demonstrated a short field landing at the Burbank Airport. After a low-and-slow approach, we landed and turned off in less than 400 feet, but from the cockpit it looked as though we had stopped rolling before we had passed the wingtip of a DC-4 warming up on the ramp. With an indicated 73 mph coming across the boundary of the field, even this writer was able to stop her within 500 feet —and there was only a 10-mph breeze blowing.

For the pilot who flies long hops on business, the man who's time is worth money, a *Bonanza* should be a money maker. For the experienced private owner who wants the class and flash of speed plus a complete airplane all in one package, the *Bonanza* is a grade A answer.

Aircraft manufacturers all know that airplanes occasionally crack up. Few builders do anything in the line of educating their customers, but Beech takes its *Bonanza* owners into it confidence. Complete accident reports are mailed to every owner, salesman, dealer and distributor to show the cause, as near as can be determined, of each *Bonanza* mishap. An honest approach like this, fostered by John P. Gaty, Vice-President and General Manager for the company, can do much more good for the aviation industry than any hush-hush policy toward crashes.

Beech accident reports are complete factual studies including pilot experience, weather, comments from eye witnesses, CAA reports and the reports of Beech factory representatives flown to the scene of the crash. Main cause of these crashes as been pure pilot error when planes have been taken into turbulent instrument conditions by pilots without any "guage" training. It isn't cricket to blame the airplane for the inexcusable bad judgment of the occasional Dilbert or show-off pilot.

One of the age-tested axioms of the aviation business is that, while you can make a plane fool proof, you can't make it damn-fool proof, but Beech is making an honest effort in the damn fool department by this education campaign.

**New Douglas Twin-Jet Fighter**

Called the *Sky Knight* and designated the F3D, this new all-purpose night-figher is being built for the navy by Douglas Aircraft. It is powered by two 24C Westinghouse jet units, and is equipped with new type night-fighter radar.

# Know Your Compass

*(Continued from page 33)*

correction may be estimated with reasonable accuracy, but without knowing the error of the compass itself (all too often different or greater than believed) the rest of the book just doesn't work out.

Just last Sunday the owner of a new ship called me out to check the deviation on the compass. The first headings checked showed an error of only one or two degrees, but the error on later headings increased and before we'd finished we found as much as 15° error. If this owner had started on a cross-country to a point due south, the book-rule navigation would have worked out excellently since the deviation on that heading was only two degrees west. However, on the return trip the deviation of 15° would have pulled him 'way off course. The resultant confusion and discouragement from several such efforts is apt to result in another recruit for the "iron beam" school of navigating railroad tracks. In passing, we might mention the factory deviation card gave three degrees as the maximum deviation on any heading.

As in ascertaining how much gas you have before take-off, the only way to know the accuracy of your compass is to check it yourself. The two most satisfactory methods of doing so are with either a compass rose or an astro-compass. Neither is difficult to do once learned, and the result will do marvels for your navigation.

The compass rose method, while requiring more time than the astro-compass, uses less mental energies and can be used on a cloudy day whereas the other method is generally used with the sun. A compass rose is simply the points of the compass laid out on the ramp or airport surface by paint or other markers in such a manner that the longitudinal axis of the plane can be aligned over the compass points and the ship's compass readings compared with the actual headings of the rose. The difference in reading gives us the error.

The ship is aligned with the established directions of the rose by placing the tailwheel on the reciprocal direction and centering the front of the ship over the desired point on the rose. This can be done by hanging a plumb line (any weight on the end of a string will do) from the propeller shaft just behind the prop. If the compass rose is laid out in magnetic directions, then the difference between your compass and the rose is the deviation. If laid out in true directions, variation will have to be considered. This will be taken up later in an example.

One of the disadvantages of the compass rose is that airports possessing them are few and far between. Another disadvantage is the excessive maneuvering necessary to get the ship accurately lined up on eight different lines, the minimum number of points that should be checked. Since for exact work the engine should be running, as the ignition system affects the magnetic lines of force, the astro-compass requires much less backwork or caution.

The astro-compass is a simple instrument now sold as Army surplus for about $10. With it you will need a Nautical Almanac, obtainable for $1.50 from the government printing office. (The Air Almanac is somewhat handier to use but one volume does not cover the entire year.) The initial investment can often be turned to a profit by checking deviation for other plane owners at a nominal fee.

To use the astro-compass, we need the time to the nearest 10 minutes. Time past noon must be converted to the 24-hour clock: 03:40 PM would be 15:40. This time must now be converted to Greenwich time, which is the time used in the almanac. Simply add five hours to EST, six hours to CST, etc., and the result is Greenwich time.

From the almanac we discover two things about the sun. First is the longitude of the sun, called GHA (Greenwich Hour Angle) in the almanac. Second is the latitude of the sun, called declination in the almanac. From a local map we find our own approximate latitude and longitude, and the variation.

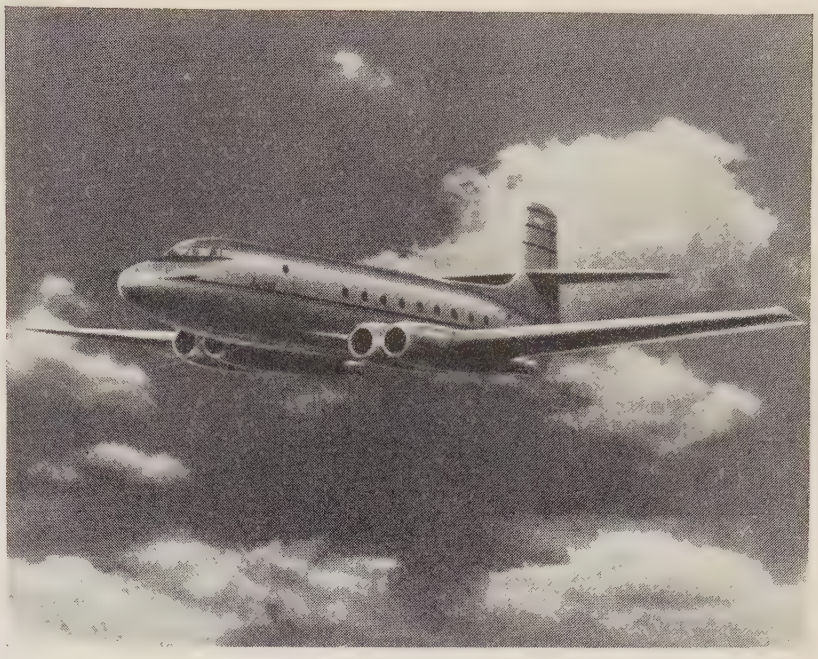
For June 20, Eastern Daylight Time 02:40 PM, we compute EST 13:40, and add five hours to get 18:40 GCT (Greenwich Civil Time). Entering the Nautical Almanac, we find the sun for this date on page 20, near the bottom of the middle column. Entering from the left margin with 18:00 GCT the longitude of the sun is given as 89 degrees 38 minutes. On the right-hand side of page 21 we find the interval to add for the additional 40 minutes—10°. For 18:40 GCT on June 20, the longitude of the sun is thus 99 degrees and 38 minutes. Alongside of the GHA we find the latitude or declination of the sun, in this instance 23 degrees and 27 minutes. In summer the declination is always North, in winter always South. We can now throw the almanac away and pick up the astro-compass.

In using this instrument one thing must be remembered. Any place north of the equator, use the white numbers only and ignore the red numbers. The red numbers are for use south of the equator only. Starting at the top of the astro-compass, set the declination halfway between 23 and 24 degrees on the white numbers on the "N" side. Below this adjustment, on the side of the instrument are two round knobs one of which is marked for latitude. On this we set our own latitude, in our case approximately 41 degrees North.

Now we must set the knob on the other side, which is the LHA, or in simple words merely the difference in longitude between us and the sun, measured west from our position. Since we are 74 degrees West, and the sun is 99 degrees 38 minutes West, the sun is west of us by 25 degrees and 38 minutes. Set this number with the knob marked LHA. (Remember that in the hours before your local noon hour, the sun is east of you, and to get the LHA west you must subtract the LHA east from 360 degrees. Example, sun's longitude 50 degrees, your own longitude 74 degrees. Longitude difference 24 degrees east. 360 minus 24 is 336 longitude west difference, which is the number you set on the instrument. If this confuses you, just use the astro-compass in the afternoon and you do not need to worry about subtracting from 360.)

Now we are ready to go to work. For small ships, fasten the astro-compass mount

*(Continued on page 48)*



**Avro Jet Airliner for British**

A. V. Roe, Ltd., of Canada, has a new one they are readying for flight sometime this spring. Called the C-102, it is a four-jet airliner that will carry from 36 to 40 passengers, will cruise at 400 mph at 30,000 feet. It has pressurized cabin.

# Know Your Compass

*(Continued from page 47)*

to a straight-edge board which can be aligned in some manner with the longitudinal axis of the ship. Before mounting the instrument itself, make certain that the fore and aft points of the mount are parallel to the straight edge. With the "aft" marking toward the rear, it is ready for use.

The best location for use varies with different ships. The Luscombe, for example, has a flange on top of the cabin which is perfect to align with. If you align with the flat side of the tail fin remember some ships have a slight offset to counteract torque (as much as three degrees, usually less). Such an offset, unless allowed for, will naturally cause the readings to err by that amount.

In use, the instrument must be perfectly level. For this purpose there are, built into the base, two bubble levels easily adjusted by knurled wheels at the bottom sides. Before each individual reading, and there should be eight readings (one on each heading), check the bubbles to make sure they are in the center.

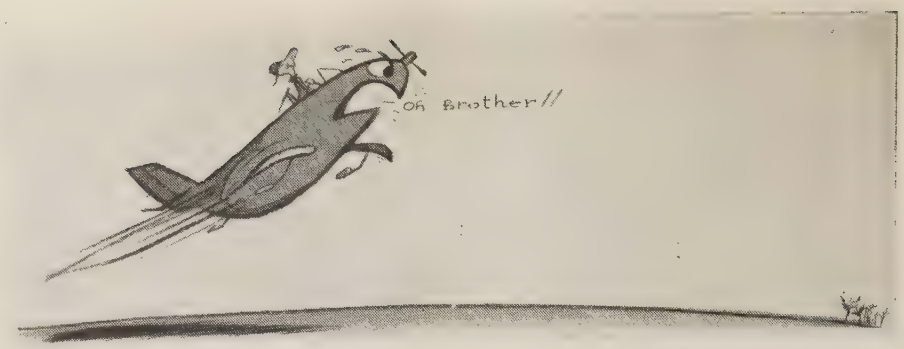
Now rotate the instrument on its base until the small black bar in the square at the top casts a shadow directly between the two black lines in the center of the white plastic plate behind the bar. When so set, the numbers on the front base will give you the true heading. Apply variation and compare with the reading of the ship's compass. During the process the engine should be running and the radio, if any, switched off and on to ascertain interference. Repeat the procedure until you have readings on the four cardinal points and the points halfway between. Below is a sample of our results.

| Astro-Compass | Var. W | Mag. Hdg. | Ship's Comp. | Deviation |
|---|---|---|---|---|
| 334 | 11 | 345 | 360 | 15W |
| 020 | 11 | 031 | 045 | 14W |
| 067 | 11 | 078 | 090 | 12W |
| 117 | 11 | 128 | 135 | 07W |
| 167 | 11 | 178 | 180 | 02W |
| 214 | 11 | 225 | 226 | 01W |
| 260 | 11 | 271 | 270 | 01E |
| 314 | 11 | 325 | 315 | 10W |

Once proficient with the astro-compass, you can set it up in five minutes and complete the check in half the time it would take you with a compass rose. With an astro-compass your headings do not have to be exact. That is, anywhere from 35 to 55 degrees will have nearly the same deviation as 45 degrees. On the compass rose the ship must be aligned *exactly* to 45 degrees on the line, and this takes time.

In ascertaining whether the ship's compass reads higher or lower than the astro-compass, we determine whether deviation is east or west. If the ship's compass reads higher, deviation is west, if lower, deviation is east. With an astro-compass reading of 270 degrees (this is true direction), ship's compass 284, variation 11W, the compass deviation is 3 degrees west, since it should read 281. With the same variation and true heading, if the ship's com-

*(Continued on page 51)*




# Dilbert

*(Continued from page 36)*

just to plain ordinary inattentiveness.

Every aviator knows that an airplane will stall when the airspeed falls below a certain minimum. But he often overlooks this basic principal during take-off climb. Airplanes do not stall of their own accord —they are pilot-stalled.

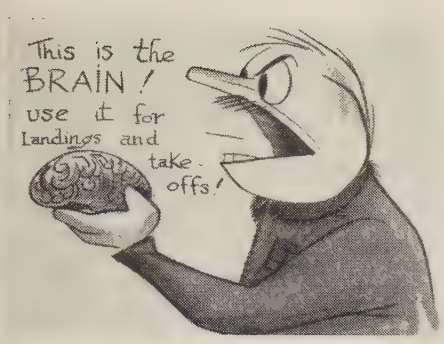

Most stalls and spins during take-off can be traced to one or more of these common errors:

a. *Pulling the plane off before attaining adequate airspeed.* Usually caused by lack of attention and undue haste, by attempting to take off with insufficient room, by losing directional control and pulling off, or by failing to use sufficient throttle early in the take-off run. Obviously, get safe flying speed before leaving the ground.

b. *Stalls during take-off upon encountering slipstream of plane ahead.* Most of these occur during touch-and-go landing practice. Lack of flight discipline is a common factor here, arising from non-standard take-off patterns and insufficient interval between planes. It is up to the following pilot to insure adequate interval and see that he has sufficient airspeed for control in any unexpected turbulence.

c. *Abrupt climbs and steep turns* before adequate airspeed has been attained. Such climbs are not only dangerous, but unnecessary. Engines often misbehave right after take-off. Get your flying speed first, then start a gentle climb and turn, if necessary. It's unspectacular, but healthy.

d. *Incorrect tab settings.* Crash investigators frequently find elevator tabe in the full "UP" position, indicating the pilot did not check them. Other tab maladjustments reveal either poor instruction or lack of attention, resulting in the same unhappy termination. Tab settings on high-performance aircraft can create forces greater than the pilot can overcome. Results can be disastrous even with settings only a few




degrees off, particularly if the pilot's attention is diverted during take-off.

e. Briefly noted, other mistakes include retracting flaps too soon, using insufficient rpm, and failing to appreciate the aerodynamic effects of heavy loading, external gear, etc.

Just remember that a plane in its take-off climb needs airspeed to sustain it. Don't stall! *Don't Stall!* DON'T STALL! *Landing Routine* .— Year after year, approximately one-third of all aircraft accidents occur during landing. This doesn't include crashes during forced landings, but only those accidents which occur while the pilot is attempting to make a voluntary landing on a predetermined field. Evidently they must involve considerable pilot error.

Due to the high incidence of landing accidents, it would seem smart to review the rules for preventing them, and to make sure they are incorporated in your landing procedure.

1. Know the traffic rules of any airport at which you intend to land.

2. Clear your engine frequently during a glide and use heat control as necessary.

3. Keep looking around for other aircraft.

4. Check your safety belt.

5. When approaching an unfamiliar field, spot obstructions, watch for holes, ditches, high weeds and construction work.

6. Be positive of wind direction. Land directly into it where possible. Practice cross-wind landings under favorable conditions at a familiar field.

7. Watch that airspeed! Avoid too much, to prevent overshooting. Be sure you have enough. Don't s-t-r-e-t-c-h a normal glide.

8. Avoid over-use of brakes. Don't attempt to turn during a fast roll.

9. Above all, never commit yourself to a landing too far ahead of time. Be on the alert for any dangerous situation which may develop. Don't wait too long under such circumstances, or let pride show you up for a greenhorn. Give her the gun and go around again, like an old timer.

The Cockpit Ostrich — Case 1. An experienced pilot was making an approach for a practice landing. Observes stated that he appeared to be leaning over in the cockpit making some adjustment immediately prior to the crash.

Who in blazes do you think is going to fly your plane while you fiddle around with your head in the cockpit? The natural tendency is to push the stick forward when you lean down. Common sense should warn you of the danger of keeping your head in the cockpit for more than a second or two at low altitude.

# To Paint or . . .

*(Continued from page 42)*

a painted plane might run only about half or less than the unpainted price.

Atlantic also suggests that owners of larger planes who run into the problem of expensive aircraft cleaning and yet do not wish to paint their planes might do well to investigate the contract arrangement run by the R. M. Hollingshead Corp., at Camden, N. J., under which a regular monthly cleaning job is done on planes flown to Camden, priced at a flat rate covering an extended period of time. Hollingshead, of course, is the well-known cleaner and finish manufacturer and their treatment covers every part of the aircraft.

For information on cleaning and painting larger planes, SKYWAYS survey went to Willis Air Service, at Teterboro, now an authorized Douglas maintenance operator and long an all-around base for non-scheduled and foreign airline planes. Willis has done successful work with one type of painting that some other operators either will not attempt or with which they have had no success, namely, putting only one coat on the aircraft without using a primer or bonding coat. A FAMA Argentine airline DC-4 inspected at Willis had a single, broad blue stripe painted around the fuselage a year ago at Willis, without priming, and the paint appeared as glossy and firm as when applied. The same success is reported with several other aircraft that were given either trim or full paint jobs and, strangely enough, one order that came through from a Latin-American company specified that no primer was to be used under the finish paint, possibly to allow easier stripping in case of a later change.

The Willis technique consist of a complete cleaning of the plane with WO No. 1, made by Turco Products, Inc., where skin grime and corrosion demand it, followed by a wash job with Gunk and then the plane is sprayed with S. G. Enamel, a synthetic gum paint made by Randolph Products of Carlstadt, N. J.

Some idea of how a company like Willis arrives at its prices for cleaning and painting is given by its man-hour estimates. These all apply in this case to a DC-3, but they would be scaled proportionately for any other aircraft, whether a *Lodestar,* or any of the twin-engined planes in executive use, according to the skin area and man-hours necessary.

After October 1, Willis raised their labor rates per man-hour to $2.50. Multiplying this by the man-hours necessary for any specific task plus the cost of the materials used would give the price of a job. Thus, the average machine polishing and hand cleaning of a DC-3 might require an average of 150 to 200 man-hours, at a job price of about $375 to $500, or possibly more. An ordinary wash job, though, would cost $60 to $75 for the same plane if that was all it needed to clean it up.

Preparing for a complete exterior paint operation would involve about 25 to 50 or more hours of cleaning with the higher figure in force if the condition of the craft requires the use of WO 1. A single coat of enamel figures at about 50 man-hours, actually requiring about five gallons to completely cover a DC-3, (thinning is the answer to the seemingly low figure). Naturally, if a zinc chromate primer is requested that will take about the same time and then the paint will require an additional 50. The average price of the S. G. Enamel per gallon, depending on the color, runs about $7.20. In case the job demands it, additional time is required to remove and replace all control surfaces, which would also be coated with pigmented dope to match the main color as required. A total of at least 70 hours is figured for the removal and replacement work on the fabric-covered surfaces. Thus an average paint job would run in about the same price range as the average cleaning and polishing, with the very important factor that the painted plane would later require washing and some hard polishing attention, while the complete machine polishing operation on an unpainted craft might be required again two or three months later, depending on how particular the owner might be about his plane's appearance.

Out on the West Coast we queried Pacific Airmotive and Grand Central, both outfits being standouts in the field of service and maintenance, particularly in the executive or corporate plane category.

Pacific Airmotive's C.C. Cole reported that to wash, polish and paint a Lockheed *Lodestar,* using a pre-paint followed by zinc chromate primer with a finish coat of either synthetic enamel Dulux or laquer, would cost about $950. A twin-Beech, reported Mr. Cole, would run a pretty even $100 less, or $850. Cole hastened to add, however, that these prices were based on a "clean" airplane, not a conversion job or one covered with a lot of oil and guk.

Keith Brainard at Grand Central reported it would cost $160 just to wash and polish a twin-Beech if the ship were not in bad condition, and $275 or more to wash and polish a *Lodestar.* For painting a twin-Beech, Brainard reported, using pre-paint followed by zinc chromate primer and synthetic enamel, an owner would have to shell out $900. This same paint job on a Lockheed *Lodestar,* he said, would run between $1,250 and $1,300. None of these paint costs include trim work or insignia.

That, then, is the story on painting and cleaning. All estimates depend on the type of plane,the condition of its aluminum surface which includes the amount of corrosion present, and also how a shop is set up and how much painting it has done in the past. It all boils down to one important point. If an airplane owner feels that giving his plane a complete exterior paint job will enhance its looks, prolong its life and cut his cleaning costs, he should fly it to a dependable, experienced operator and get various estimates on just what it will take. If he can make cleaning arrangements that will keep his costs down below the painted level, or if he prefers the shine of untouched Alclad, then he should not be pressurized into something he may regret later because removing paint may cost as much or more than applying it.

It's up to the owner to add up the score and make his choice, but thus far it seems weighted on the side of painting.


"Have another hard day in the air?"

## Executive Service

*(Continued from page 45)*

airplane is then carefully serviced with gas and oil. Right here we go one step further than normalcy, and provide our customers with absolute insurance against foreign matter entering their tanks—we have an additional strainer of 100 mesh screen installed in each dispensing nozzle.

Published flat rates have been set on all standard overhaul maintenance jobs from repairing a sensitive altimeter to washing and polishing the plane. As service representatives for the "top name" accessory and engine manufacturers, we maintain facilities for complete overhauling of starters, generators, magnetos, instruments, carburetors, radio and engines, which are available for immediate service to the executive flyer.

Back in our "Utopia" paragraph we mentioned Drive-Ur-Self cars and proposed lunches. We are running a questionnaire survey at the present time to determine whether our customers are desirous of such services, and if the answers warrant it we will take steps to have them.

Other service operators over the country have similar methods of rendering a complete, functional service to these executive aircraft owners, and, like ourselves, maintain purchasing and expediting personnel to keep a steady flow of materials into the bins for quick maintenance service. Add to this, service personnel, factory trained, with up to the minute "know how" of the latest methods in overhaul and maintenance, and courteous "line" attendants; then you have a team that can't be beat when it comes to rapid, efficient over-all service to the executive aircraft operator. It is this kind of service they are looking for and we service operators mean to see that they get it.

## Yukon Hunters

*(Continued from page 31)*

been to, anyway. For the big game in the Yukon quite a few hunters choose the 30.-6 or the 300 Magnum. The ammo most favored is the controlled expansion type, such as the Silver Tip, Korloc. Several species of the game hunted in this area are dangerous and that is why the guns and ammo must be better than adequate.

Food, guides, canoes, and camp facilities were to be provided by our hosts, the Shades, ex-Army pilots turned sportsmen's guides and hosts. Time permitting, they sometimes join the hunting parties themselves. Two of the Shade brothers used to ferry bombers and fighters right over this beautiful part of the country. It was as they flew over Lake Teslin that the dream of the Yukon hunting was born.

It remained no more than a dream all through the war, while the Shade boys did their bit ferrying planes over the Hump, flying the South Pacific, and serving in India, Burma, and China. Carson, Pat and Earl Shade were the first to don civilian clothes and initiate negotiations with the Canadian government for permission to enter and establish a hunting lodge in the Yukon territory. Meredith was still a Lieutenant Colonel in the Army. They needed him so badly, the War Department released him from the Air Corps to help with the Shade family enterprise.

When negotiations with the Canadian Government looked encouraging, the four Shade brothers, and their two sisters, Audrey, and Autumn, pooled their money and put out brochures advertising their services to sportsmen—a flight to Canada to hunt caribou, moose, bear, mountain sheep. At first they intended using a pontooned Nordyn *Norseman*, but decided in favor of the DC-3 and interim trips by truck and canoe. Some sportsmen were displeased with jogging for miles on rough roads, but the abundance of game soon put an end to their grumbling about roughing it. On one of the first trips a party shot three moose, seven caribou, four grizzly bear, seven sheep (one black, extremely rare), a wolf, and an eagle. The rough route now leads for 87 miles out on the Alcan Highway by truck, which takes about three hours to Johnson's Crossing. Then on the Canal Road for 120 miles. The whole 120 miles has been hunted at different times. One of the favorite spots is Quiet Lake, 65 miles from the Crossing; Rose Lake, about 40 miles away, and Lapie Lakes, not 10 miles from Johnson's. There are three permanent camps, but actually the camps are moved with the game. Each camp has five hunters, five guides and a cook. One of the cooks is Norwegian, one Syrian, and one Chinese, which adds quite an international flavor to your Mooseburger.

Each hunter goes out from camp with his Indian guide on a two- or three-day trip, depending on the game he hunts, then moves on to another camp for another type of game. Before going out into the bush, the hunters go to an ex-Army target range the Shades opened up specially for the purpose of trying out hunting equipment, and there blast away to check the performance of their guns.

The Indian guides are all natives of the territory and know every inch of the terrain. Most of them are Siwash and Crow Indians. They are skilled and competent trailers and hunters, for wild game is their chief means of livelihood. They take great pride in their ability as guides and hunters and each tries to outdo the other in bringing his hunter to bigger and better game. They are excellent about dressing and curing the skins, and working over the heads preparatory to mounting as trophies.

Out of the game we got, we took home the choicest cuts, and gave our guides the rest for their winter food supply. As my guide told me, anyone who can hit a side of a barn is bound to come back with moose, caribou, grizzly, sheep, wolf, ducks, and all kinds of fish. There are steelheads, rainbow and tagish, some up to 30 pounds. There is plenty of whitefish, pike, and fighting lake trout. Every five days the Shade truck makes a trip between Whitehorse and the camps to take in the meat for refrigeration and to bring out the necessary supplies and mail.

I had been in this rough terrain before—by pack horse—and I could appreciate the comfort and speed of air travel—a 5,000-miles' round trip in two days. We started at 6 a.m. on a Saturday, arriving at Whitehorse that evening, after a smooth and enjoyable trip and several stops—at San Francisco, Seattle, and Juneau. The flight schedule usually coincides with the customs inspection in Canada to avoid delays. At Whitehorse we had our personal belongings checked, bought our hunting licenses and what extra ammunition was needed. A non-resident hunting license costs $100 and entitles you to one moose, two caribou, one sheep and all the bear you want; also bird shooting and fishing.

The Northwest "Mounties" checked guns.

After a good night's rest at Whitehorse Inn, we embarked on a bumpy truck trip through the bush—down the Alcan Highway, to Johnson Crossing where it turns off on Canal Road, to spend 10 days in the woods with our Indian guides. All guides must be five-year residents of the Yukon territory, but some of those Indians have lived there for generations.

It rained off and on the first few days. When we arrived at Quiet Lake, the five men from Los Angeles met their guides and took canoes to a camp about 20 miles away. Our party of 11, including my son Douglas, George Clausen, Alfred Harman, Don Woolsey Junior and Senior, Dr. Ray Tilley, Edward Maxwell, John Scholle, and myself, all from Oxnard, went to camps Two and Three, approximately 100 miles away from Johnson Crossing.

The first morning my son and I took the three horses that were in Camp No. 3 and started out to look for game. At 10 that morning we spotted an animal. Through our 20-power spotting scope it looked as big as a dog, but our Indian guides' experience and wonderful eyesight translated it as two caribou cows and a bull. We started our stalk on horseback, but the trail was so rough we soon had to continue afoot. It being our first day of hunting we soon found ourselves winded and aching. But after a lunch the Indian guide fixed for us, we felt better and went on, catching up with the caribou about three o'clock.

The bull was still in velvet and looked a beautiful specimen. My son bagged him. The guide, for all his Indian stealth and appearance, was thoroughly modern: he took colored films of all the action. They turned out pretty well, too. We loaded one ham and loin on the guide's pack boards, and carried the head and cape back to camp which we reached by nightfall.

The second day we went out again and saw a bull and cow moose. The spread of horns on the moose was less than 50 inches, so we passed him up. After the first day we were not using horses, so the weight of the meat which we would have to haul ourselves, was taken into consideration.

Our camp was located in an abandoned labor camp — emergency huts every six miles which were used as booster stations to keep a 2700-pound pressure alive on the oil pipe line from the Cabal oil fields to the refinery at Whitehorse. During the construction of this military road, 600 miles of six-inch oil pipe line was laid. The little huts had stoves, dishes, and cots, which made it into a cozy hunting camp. While we hunted sheep, we had a truck drive us out on the Canal Road to a likely looking spot. We would hunt sheep from there and return to the huts for an overnight stay. The mountains all around were about 8,000 feet high, so you certainly needed your power scopes trying to spot sheep on them.

But once you spotted a sheep or a bunch of them, it usually took all day to get to them—their nearness through high-powered glasses was deceiving. And even after all this mountain climbing and hiking you could never be sure of a good ram. In addition to climbing, we became inured to cold, as we had to cross ice-cold streams, wading. One of such fruitless hunts happened on our third day: we stalked eight sheep and found after a strenuous three-hour climb that there was not a good ram among them. The fourth day, however, brought a consolation: from another emergency hut, we stalked five rams on the opposite side of the canyon, and after a three hours of clinging to crags and scratchy bushes, leaping from boulder to boulder like the sheep themselves, we killed four rams out of the five.

With the taking of a ram my hunting trip was practically over—I had nearly every other type of North American big game in my collection already.

But if big game hunting was over, there was still wonderful trout fishing in the lakes and streams. We caught grayling and rainbow up to 18 pounds in the lakes and smaller pan size in the streams.

Besides a smooth and scenic trip by air, another thing I found a boon was taking the minimum of equipment with me—just gun, ammo, fishing tackle and bedroll. Food, lodging, guides, dogs, horses—all of these were furnished by our hosts, the Shades. Ordinary clothing you would rough it in will do, but one must remember that nights in the Yukon are plenty cold. During the last days of September, for example, they have eight inches of snow. Mackinaw jacket and high rubber boots for duck and fish enthusiasts are practical; also a cap of some kind. The luggage for each air-hunter is limited to 150 pounds. Just how successful these trips were becomes clear when you learn that the Shades have flown out some 6,000 pounds of meat (dressed) in a season.

For anyone who goes hunting in the Yukon territory with other than rod, gun, and camera, there may be fun with prospector's pick and shovel. This section has rich mineral deposits, and their inaccesibility is the only thing that kept the mines from being developed or exploited. It is a sportsman's heaven—accessible only by air—no matter the sportsman's hobby.

*EDITOR'S NOTE: Mr. Carty is a former Fish and Game Commissioner of California, President of the eleven Western States' Federated Sportsmen for the past three years. He is active in many sportsmen's organizations in California: President of the Southern Council of Conservation Clubs for the past two years (with some 75 clubs and over 50,000 members to worry about); Director of Ducks Association of California; Director of Quail Preferred, and member of Ducks Unlimited.*

# Know Your Compass

*(Continued from page 48)*

pass reads 275, then the deviation is 6 degrees east, since again it should read 281.

The procedure with the astro-compass, because it indicates true heading, is the same as with the compass rose laid out to true directions. If the compass rose is laid out to magnetic directions, the variation can be disregarded and the compass reading compared directly to the rose heading. Example:

| Rose Hdg. | Ship Comp. | Dev. |
|---|---|---|
| 360 | 356 | 04E |
| 090 | 088 | 02E |
| 180 | 183 | 03W |
| 270 | 272 | 02W |

The deviation corrections may be put on a card near the compass itself, or put on a graph and kept with the navigation papers. When deviation errors are excessive, have the compass compensated at a competent instrument repair shop. By adjusting the small magnets within the compass frame, the error can usually be "balanced out." Often an Army surplus compass can be picked up for a nominal fee but it may not be as good as the one you have. While accurate navigation can be done with any degree of deviation provided it is known, six degrees would be about the maximum comfortably allowable in my own ship.

Do not be satisfied with one check. Run several, a few weeks apart, and from then on about twice a year unless there is a special reason to check sooner. Hard landings, radio or generator installation, ignition repairs, and other items sometimes change the deviation markedly in a short time.

Only if you know your deviation can you accurately compute a compass course. True heading can be measured, variation taken from the map and magnetic course accurately ascertained. With accurately known deviation you can arrive at a correct campus course and if you hold this course, any straying from the line on the map is definitely due to wind, which can then be computed and allowed for.

An accurate compass is the only satisfactory basis for accurate navigation, since direction is the most important component of navigation. If you are having trouble with your navigation and have not checked your compass, you may be surprised to learn that your compass is hindering rather than helping you. Before you make your next X-C, run a deviation check to make sure your own compass is helping.

## PICTURE CREDITS

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Of SKYWAYS published monthly at New York, N. Y., for Oct. 1, 1948.

State of New York
County of New York } ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared J. Fred Henry, who, having been duly sworn according to law, deposes and says that he is the Publisher of SKYWAYS, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily, weekly, semiweekly or triweekly newspaper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the act of August 24, 1912, as amended by the acts of March 3, 1933, and July 2, 1946 (section 537, Postal Laws and Regulations), printed on the reverse of this form to wit:

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3. That the known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

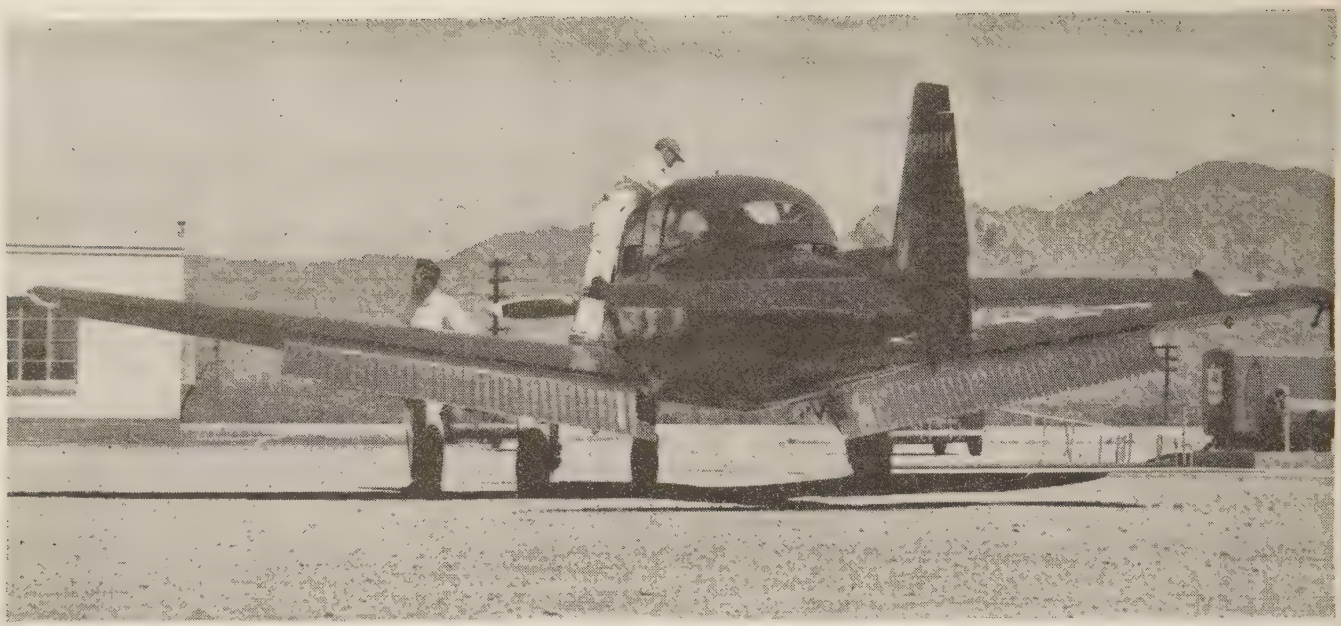
4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is ..... (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

(Signed) J. FRED HENRY,
*Publisher*

Sworn to and subscribed before me this 7th day of September, 1948.

(SEAL) STANLEY M. COOK,
(My commission expires March 30, 1950)



**BUSINESS USE** of aircraft requires quality in service and maintenance, with emphasis on factory established methods, standards

# Corporate Aircraft Service Directory

GOOD service and maintenance are essential to the economical operation of aircraft for business. This Directory, therefore, has been especially prepared by SKYWAYS for the owners and operators of single-engine four-place and multi-engine corporate aircraft. The service operator listed herein are those officially authorized by the leading aircraft and equipment companies to service and maintain equipment according to rigid factory-established standards. It will pay you to make use of their facilities.

## AIRCRAFT

***Beech:***

Anderson Air Activities
Gen. Mitchell Field
Milwaukee, Wis.

Atlantic Aviation Corp.
Teterboro Air Terminal
Teterboro, N. J.
*(See adv. page 60)*

Atlantic Aviation Serv.
DuPont Airport
Wilmington, Dela.

Butler Co. A'craft Sales Div
Chicago, Ill.

Butler Co. A'craft Sales
Tampa Internat'l Field
Tampa, Fla.

Cutter-Carr Flying Serv.
West Mesa Airport
Albuquerque, N. Mex.

Francis Aviation
Capitol City Airport
Lansing, Mich.

Hawthorne Flying Serv.
Municipal Airport
Charleston, S. C.

Hunter Flying Service
Cedar Rapids, Iowa

Turner Aeronautical Corp.
Municipal Airport
Indianapolis, Ind.

Longhorn Aircraft Corp.
Stinson Field
San Antonio, Texas

Ohio Aviation Co.
Dayton Municipal Airport
Vandalia, Ohio

Pacific Aircraft Sales
Lockheed Air Terminal
Burbank, Calf.

Page Airways, Inc.
Municipal Airport
Rochester, N. Y.

G. E. Penn
Gregg County Airport
Longview, Texas

Wings Field, Inc.
Wings Field
Ambler, Pa.

J. D. Reed Co., Inc.
Municipal Airport
Houston, Texas
*(See adv. page 63)*

J. D. Reed Co., Inc.
New Orleans Airport
New Orleans, La.
*(See adv. page 63)*

Southern Airways Co.
Municipal Airport
Atlanta, Ga.

Southwest Aviation Serv.
Municipal Airport
Oklahoma City, Okla.

Tulsair Distributors
Municipal Airport
Tulsa, Okla

***Bellanca:***

A. W. Whitaker
Portland, Ore.

Bellanca Corp.
Bellanca Airport
New Castle, Dela.

Hogan Flying Serv.
Mitchell Airport
Mitchell, Nebra.

Sammon-Fenwick A'craft
Municipal Airport
Baltimore, Md.

Faulkner Aviation
Long Beach, Calif.

Inter-City Flying Serv.
Smith Muni. Airport
Fort Wayne, Ind.

Blevins Aircraft Corp.
Municipal Airport
Hapewell, Ga.

Edwards Flying Serv.
Flushing Airport
Flushing, L. I., N. Y.

Moore's Sch. of Aviation
Pinellas Airport
St. Petersburg, Fla.

***Cessna:***
Aerial Surveys of Pitts.
Pittsburgh, Pa.

Aero Activities
Detroit City Airport
Detroit, Mich.

Aero Enterprises
Meacham Field
Ft. Worth, Texas

Aerosales
Municipal Airport
Omaha, Nebr.

Aero Service
Boeing Field
Seattle, Wash.

Air-Oasis Co.
Sky Harbor Airport
Phoenix, Ariz.

Air-Oasis of Calif.
Chandler Field
Fresno, Calif.

Airways, Inc.
Beaver Field
Des Moines, Iowa

Akron Airways
Municipal Airport
Akron, Ohio

Appalachian Flying Serv.
Johnson City, Tenn.

Camfield Aviation Co.
Kent County Airport
Grand Rapids, Mich.

Cannon Aircraft Sales, Serv..
Charlotte, N. C.

Cincinnati Air Activities
Lunken Airport
Cincinnati, Ohio

Clinch Flying Service
Municipal Airport
North Platte, Nebr.

Clinton Aviation Co.
Stapleton Airfield
Denver, Colo.

Consolidated Aircraft Repr.
Smith Municipal Airport
Ft. Wayne, Ind.

Davies Flying Service
Bowman Field
Louisville, Ky.

Dixie Air Assoc.
Memphis, Tenn.

Dixie Air, Inc.
Van de Graaff Field
Tuscaloosa, Ala.

Empire Distrib., Inc.
Felts Field
Spokane, Wash.

Fliteways, Inc.
Milwaukee, Wis.

General Aircraft Co.
Municipal Airport
Boise, Idaho

Hamburg Airpark, Inc.
Hamburg, N. Y.

Hubbard's Aviation
Municipal Airport
Watertown, S. Dak.

Huntington Airport, Inc.
Chesapeake, Ohio

Jennings Bros. Air Serv.
Grafton Airport
North Grafton, Mass.

Johnston Aircraft Corp.
Municipal Airport
Atlanta, Ga.

Lane Aviation Corp.
Port Columbus
Columbus, Ohio

Little Corp.
Wings Field
Ambler, Pa.

Louisiana Flyers, Inc.
Lake Charles, La.

Lynch Flying Serv.
Belgrade, Mont.

Lysdale Flying Serv.
Victory Airport
Minneapolis, Minn.

Mauk's Airpark
Blackwell, Okla.

Meriden Aircraft Corp.
Municipal Airport
South Meriden, Conn.

Miami Valley Flying Serv.
Dayton, Ohio

Mid-States Aviation Corp.
Sky Harbor Airport
Northbrook, Ill.

Mokan Aircraft Sales
Nicholas Field
Marshall, Mo.

Morey Airplane Co.
Middletown, Wis.

Mustang Aviation, Inc.
Mustang Field
Dallas, Texas

Pathfinder Flying Serv.
Oranges Airport
Stockton, Calif.

Personal Airplane Sales
Flushing Airport
Flushing, L. I., N. Y.

Prewitt Aircraft Sales
New Orleans Airport
New Orleans, La.

San Benito Flying Serv.
San Benito, Texas

Sax Aviation Co.
Worth Field, Airport
Dickinson, N. Dak.

Salty Bacon
La Habra Airport
La Habra, Calif.

Sky Harbor, Inc.
Sky Harbor Airport
Indianapolis, Ind.

Springfield Flying Serv.
Municipal Airport
Springfield, Mo.

Standard Air Service
Glen Burnie Airport
Glen Burnie, Md.

Kenneth Starnes Aviat. Serv.
Municipal Airport
Little Rock, Ark.

Stone & Wells Flying Serv.
Craig Field
Jacksonville, Florida

Straley Flying Serv.
Municipal Airport
Clinton, Iowa

Thompson Flying Serv.
Airport # 1
Salt Lake City, Utah

Tomco Aviation, Inc.
Municipal Airport
San Antonio, Texas

Tuscarawas Aviation, Inc.
Municipal Airport
New Philadelphia, Ohio

Vickers Sales & Service
Municipal Airport
Lubbock, Texas

Walston Aviation
Civic Memorial Airport
East Alton, Ill.

Western Skyways
Troutdale Airport
Troutdale, Ore.

Yingling Aircraft
Municipal Airport
Wichita, Kan.

***Douglas:***
Northwestern Aeron. Co.
Holman Field
St. Paul, Minn.

Willis Air Service
N. Y. International Airport
New York, N. Y.

Willis Air Service
Teterboro Air Term.
Teterboro, N. J.

Aircraft Service Corp.
Miami, Fla.

***Lockheed:***
Lockheed Aircraft Service
Burbank, California

Lockheed Aircraft Service
MacArthur Field
Long Island, N. Y.

***Ryan:***
Palo Alto Airport, Inc.
Palo Alto Airport
Palo Alto, Calif.

Wash. A'craft & Transp. Corp
Boeing Field
Seattle, Wash.

Aircraft Service Co.
Bradley Field
Boise, Idaho

Mountain States Aviation
Stapleton Field
Denver, Colo.

Van's Air Service
Municipal Airport
St. Cloud, Minn.

Toth Aircraft & Access.
Municipal Airport
Kansas City, Kan.

Page Aviation Serv.
Municipal Airport
Oklahoma City, Okla.

General Aeronautics
Meacham Field
Fort Worth, Texas

St. Louis Flying Serv.
Kratz Airport
St. Louis, Mo.

Louisiana Aircraft
Municipal Airport
Baton Rouge, La.

Howard Aviation, Inc.
Mt. Hawley Airport
Peoria, Ill.

Southern Ohio Aviation
Dayton Municipal Airport
Vandalia, Ohio

Mallard Air Service
Teterboro Air Terminal
Teterboro, N. J.

Aviation Consultants
Municipal Airport
Reading, Pa.

Carolina Aeronautics
Hendersonville, N. C.

Wooton Aviation Industries
Municipal Airport
Orlando, Fla.

Rankin Aviation Industries
Pearson Airpark
Vancouver, Wash.

Thunderbird Aviation
Sky Harbor Airport
Phoenix, Ariz.

Bakersfield Airpark
Bakersfield, Calif.

*(Continued on page 56)*

# Directory

*(Continued from page 55)*

Clover Leaf Aviation
Municipal Airport
Santa Monica, Calif.

Conejo Valley Airport
Camarillo, Calif.

Neoair Sales Co.
Metropolitan Airport
Van Nuys, Calif.

John B. Rudy Co.
Grand Central Air Term.
Glendale, Calif.

Signal Aviation Corp.
Municipal Airport
Long Beach, Calif.

Skymotive, Inc.
East Los Angeles Airport
Los Angeles, Calif.
*(See adv. page 59)*

## ENGINES

***Continental:***
Aero Service & Supply
Municipal Airport
Birmingham, Ala.

Gulf Aircraft Distrib.
Chastain's Airport
Pritchard, Ala.

Southwest Airways
Sky Harbor Airport
Phoenix, Arizona

Williams Flying School
Sky Harbor Airport
Phoenix, Ariz.

K. Starnes Aviation Service
Municipal Airport
Little Rock, Ark.

Williams Flying Service
Adams Field
Little Rock, Ark.

Bowen Flying Service
West Memphis, Ark.

Pacific Airmotive Corp.
Lockheed Terminal
Burbank, Calif.

Mal Carberry
Belmont Field
Fresno, Calif.

Grand Central Airport Co.
G. C. Airport Terminal
Glendale, Calif.

Air Parts, Inc.
Glendale, Calif.

Martin Aircraft Service, Inc.
Long Beach, Calif.

Continental Sales & Serv.
Los Angeles, Calif.

Sky Store
Vail Field
Los Angeles, Calif.

Airways, Inc.
Montebello, Calif.

Palo Alto Airport
Municipal Airport
Palo Alto, Calif.

Sacramento Sky Ranch
Sacramento, Calif.

Pathfinder Flying Serv.
Oranges Bros. Airport
Stockton, Calif.

Aero Enterprises, Inc.
Sky Ranch Airport
Denver, Colorado

Clinton Aviation Co.
Stapleton Field
Denver, Col.

Mountain States Aviation
3800 Dahlia Street
Denver, Col.

Snyder Aircraft Corp.
1525 Broadway
Denver, Col.

Massey & Ransom Flying Serv.
State College Airport
Fort Collins, Col.

Simsbury Flying Serv.
Simsbury Airport
Simsbury, Conn.

Meriden Aircraft Corp.
Meriden Municipal Airport
South Meriden, Conn.

Atlantic Aviation
DuPont Airport
Wilmington, Del.
*(See adv. page 60)*

Clearwater Flying Co.
Municipal Airport
Clearwater, Fla.

Stone & Wells Flying Serv.
Craig Field
Jacksonville, Fla.

Embry-Riddle Co.
Chapman Field
Miami, Fla.

Florida, Aero & Supply
Cannon-Mills Airport
Orlando, Fla.

Florida Aviation Corp.
St. Petersburg, Fla.

Airco Aviation Corp.
Peter Knight Airport
Tampa, Fla.

S'Eastern Air Service
Municipal Airport
Atlanta, Ga.

Columbus Airways, Inc.
Muskogee, Airport
Columbus, Ga.

Aircraft Service Co.
Bradley Field
Boise, Idaho

General Aircraft Co.
Municipal Airport
Boise, Idaho

Rodman Sales & Service
Boise, Idaho

Illinois Services
Arlington Heights, Ill.

Taynor-Harris Service
U. of I. & Champaign Airports
Champaign, Ill.

Snyder Aircraft Corp.
Chicago, Ill.
*(See adv. page 61)*

Walston Aviation
Civic Memorial Airport
East Alton, Ill.

Parks Sales & Service
Curtiss-Parks Airport
East St. Louis, Ill.

Midwest Flyers Sch.
Lakeside Airport
East St. Louis, Ill.

Currey Flying Service
Municipal Airport
Galesburg, Ill.

Schneck Engine Service
Chicago-Hammond Airport
Lansing, Ill.

Moline Air Service
Moline Airport
Moline, Ill.

Mr. Vernon Flying Serv.
Mt. Vernon Airport
Mt. Vernon, Ill.

Rohn Flying Service
Municipal Airport
Peoria, Ill.

Parks Sales & Service
Pal-Waukee Airport
Wheeling, Ill.

Sky Service Corp.
Municipal Airport
Evansville, Ind.

Consolidated A'Craft Repair
Municipal Airport
Fort Wayne, Ind.

Calumet Air Service
Gary Airport
Gary, Ind.

Air Sales & Service
Weir Cook Airport
Indianapolis, Ind.

Sky Harbor, Inc.
Indianapolis, Ind.

Roscoe Turner Corp.
Municipal Airport
Indianapolis, Ind.

Muncie Aviation Corp.
Muncie Airport
Muncie, Ind.

O'Neal Aviation Corp.
O'Neal Airport
Vincennes, Ind.

Hunter Flying Service
Cedar Rapids, Iowa

Des Moines Flying Service
Municipal Airport
Des Moines, Iowa

Graham Flying Service
Sioux City, Iowa

Dickerhoof Flying Serv.
Municipal Airport
Chanute, Kan.

Wells Aircraft Sales
Municipal Airport
Hutchinson, Kan.

Pacific Airmotive Corp.
Fairfax Airport
Kansas City, Kan.

Harte Flying Service
Municipal Airport
Wichita, Kan.

Ken-Mar Airpark, Inc.
Wichita, Kan.

Superior Aircraft Co.
Municipal Airport
Wichita, Kan.

Wilson Field, Inc.
Wichita, Kan.

Yingling Aircraft
Municipal Airport
Wichita, Kan.

Falls City Flying Serv.
Bowman Field
Louisville, Ky.

Louisville Flying Serv.
Bowman Field
Louisville, Ky.

Louisiana Aircraft
Baton Rouge, La.

Prewitt Aircraft Sales Co.
New Orleans Airport
New Orleans, La.

Southern Aviation Corp.
Municipal Airport
Shreveport, La.

Northeast Aviation Co.
Municipal Airport
Portland, Maine

Portland Flying Service
Municipal Airport
Portland, Maine

*(Continued on page 58)*

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Spartan offers you complete one stop service at Central Airport, Camden, New Jersey, and Municipal Airport, Tulsa, Oklahoma. You can depend on prompt service and promised delivery dates — whether it is a conversion job, overhaul or minor adjustment. There is no job too large for Spartan facilities or too small to be appreciated. It is a Spartan policy to give flat rates or firm bids on every job, whenever possible.

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**INSTRUMENTS** — One of the nation's foremost instrument shops. Facilities for complete overhaul of all standard, electric and electronic aircraft instruments.

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**POWERPLANTS** — The Spartan Powerplant Division has eighteen departments, where separate operations permit each mechanic to become highly skilled in his work.

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**PARACHUTES** — Spartan's Parachute Loft is headed by a Master Rigger — one of seven in the nation with the skill and years of experience to merit CAA's highest rating.

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**SPARTAN AERO REPAIR**

MUNICIPAL AIRPORT
TULSA, OKLAHOMA
APPROVED CAA
Repair Station No. 50

# Directory

*(Continued from page 56)*

Marden Airways, Inc.
Municipal Airport
Waterville, Maine

United Flying Service
Rutherford Field
Baltimore, Md.

Standard Air Service
Glen Burnie Airport
Glen Burnie, Md.

Congressional Aero School
Congressional Airport
Rockville, Md.

Brockton Airways, Inc.
Brockton Airport
Brockton, Mass.

Plum Island Flying Serv.
Plum Island Airport
Newburyport, Mass.

Jennings Bros. Air Serv.
Grafton Airport
North Grafton, Mass.

Servaire Div., Wiggins
Boston Airport
Norwood, Mass.

Aircraft Sales Corp.
Roseville Airport
Detroit, Mich.

Barr Aviation Co.
City Airport
Detroit, Mich.

Aero Activities, Inc.
Detroit City Airport
Detroit, Mich.

Modern Aircraft Corp.
Detroit City Airport
Detroit, Mich.

McKinley Aircraft Co.
McKinley Airport
Fraser, Mich.

Camfield Aviation Co.
Kent County Airport
Grand Rapids, Mich.

Northern Air Service
Kent County Airport
Grand Rapids, Mich.

Hangar Service Co.
County Airport
Muskegon, Mich.

Mankato Aero Service
Mankato Airport
Mankato, Minn.

Van Dusen Aircraft & Supplies
Minneapolis, Minn.

Van's Air Service
Whitney Memorial Airport
St. Cloud, Minn.

Northwest Aviation
St. Paul Airport
South St. Paul, Minn.

Aircraft Distributors
Heart of America Airport
Kansas City, Mo.

Kansas City Flying Serv.
Municipal Airport
Kansas City, Mo.

Parks Sales & Serv.
Municipal Airport
Kansas City, Mo.

Toth A'craft Accessories
Municipal Airport
Kansas City, Mo.

Mokan Aircraft Sales
Nicholas Field
Marshall, Mo.

Springfield Flying Serv.
Municipal Airport
Springfield, Mo.

St. Louis Flying Service
Lambert Field
St. Louis, Mo.

Gillis Flying Service
Municipal Airport
Billings, Mont.

Skyway Flying Service
Gore Field
Great Falls, Mont.

Johnson Flying Serv.
Hale Field
Missoula, Mont.

Clinch Flying Service
Municipal Airport
North Platte, Nebr.

Central States Aircraft
Municipal Airport
Ogallala, Nebr.

Aeroservice
Municipal Airport
Omaha, Nebr.

Burnham Airplane Sales Co.
Municipal Airport
Omaha, Nebr.

Snyder Aircraft
Municipal Airport
Omaha, Nebr.

Lang Flying Service
Municipal Airport
Omaha, Nebr.

Alamo Airways
Alamo Airport
Las Vegas, Nev.

Robinson Aviation
Teterboro Air Terminal
Teterboro, N. J.

Safair Flying Service
Teterboro Air Term.
Teterboro, N. J.

Mallard Air Service
Teterboro Air Term.
Teterboro, N. J.

Thor Solberg
Solberg Hunterdon Field
Whitehouse, N. J.

Cutter-Carr Flying Serv.
West Mesa Airport
Albuquerque, N. Mex.

B. F. Hines
Municipal Airport
Hobbs, N. Mex.

Boyd Aero Service
Santa Fe, N. Mex.

Buffalo Aeronautical
Buffalo Airport
Buffalo, N. Y.

Personal Airplane Sales
Flushing Airport
Flushing, N. Y.

Hylan Aircraft Supply
Hylan Airport
Henrietta, N. Y.

Hudson Valley Aircraft
Randall's Airport
Middletown N. Y.

Engine Air Service
Mineola, L. I., N. Y.

Page Airways, Inc.
Municipal Airport
Rochester, N. Y.

Rochester Aeronautical
Rochester Airport
Rochester, N. Y.

County Airport Corp.
Westchester Airport
White Plains, N. Y.

Cannon Aircraft Service
Cannon Airport
Charlotte, N. C.

Carolina Aircraft Sales
Brockenbrough Field
Charlotte, N. C.

United Aero Service
Delta Air Base
Charlotte, N. C.

Serv-Air, Inc.
Municipal Airport
Raleigh, N. C.

Piedmont Aviation
Smith Reynolds Airport
Winston-Salem, N. C.

Sax Aviation Co.
Worth Field
Dickinson, N. Dak.

Dakota Skyways
Hector Field
Fargo, N. Dark.

Poorman Aircraft Serv.
Canton, Ohio

Cincinnati Aircraft Serv.
Lunken Airport
Cincinnati, Ohio

Cincinnati Air Activities
Lunken Airport
Cincinnati, Ohio

Flight, Incorporated
Municipal Airport
Cleveland, Ohio

General Airmotive
Municipal Airport
Cleveland, Ohio

Lane Aviation Corp.
Port Columbus Airport
Columbus, Ohio

Snyder Aircraft Corp.
Sullivant Ave. Airport
Columbus, Ohio

Miami Valley Flying Serv.
Dayton, Ohio

Mid City Aircraft
Mid City Airport
Hudson, Ohio

Tuscarawas County Aviation
Municipal Airport
New Philadelphia, Ohio

Queen City Flying Serv.
Miami Univ. Field
Oxford, Ohio

National Aviation Corp.
National Airport
Toledo, Ohio

Ohio Aviation Co.
Dayton Airport
Vandalia, Ohio

Southern Ohio Aviation
Dayton Airport
Vandalia, Ohio

Mauk's Airpark
Blackwell, Okla.

Catlin-Hutchinson Serv.
Will Rogers Field
Oklahoma City, Okla.

Southwest Aviation Service
Municipal Airport
Oklahoma City, Okla.

Smyer Aircraft Service
Municipal Airport
Ponca City, Okla.

Stillwater Flying Serv.
Municipal Airport
Stillwater, Okla.

Gleason Flying Serv.
Commercial Airport
Tulsa, Okla.

Western Skyways Serv.
Troutdale Airport
Troutdale, Ore.

A. W. Whitaker
Portland, Ore.

Little Corporation
Wings Field
Ambler, Pa.

Columbia Aircraft Serv.
Bloomsburg, Airport
Bloomsburg, Pa.

Scholter Aviation
Pitts-Butler Airport
Butler, Pa.

Scranton Airways
Scranton Airport
Clarks Summit, Pa.

Braden's Flying Serv.
Easton Airport
Easton, Pa.

Krantz Aero Service
Port Erie Airport
Erie, Pa.

Pittsburgh Aero Trades
Bettis Airport
Homestead, Pa.

G. D. Kelsey
Southwest Mun. Airport
Philadelphia, Pa.

Aerial Surveys of Pitts.
Pitts-Allegheny Airport
Pittsburgh, Pa.

Aviation Consultants
Municipal Airport
Reading, Pa.

Oscar L. Hostetter
York Airport
Thomasville, Pa.

Southern Airways
Municipal Airport
Greenville, S. C.

Hawthorne Flying Serv.
Municipal Airport
Charleston, S. C.

Dakota Aviation Co.
Howes Municipal Airport
Huron, S. Dak.

Buck's Flight Sch.
Lovell Field
Chattanooga, Tenn.

Norman Thomas & Assoc.
Chattanooga, Tenn.

Knapp Sales & Serv.
Outlaw Airport
Clarksville, Tenn.

Dixie Air Associates
Memphis, Tenn.

Memphis Flying Serv.
Memphis, Tenn.

Tradewind Airport Corp.
Amarillo, Texas

Ragsdale Flying Serv.
Municipal Airport
Austin, Texas

Continental Motors Corp.
Dallas, Texas

Southwest Airmotive
Love Field
Dallas, Texas
*(See adv. page 59)*

Southwest Air Rangers
Municipal Airport
El Paso, Texas

Aircraft Sales Co.
Meacham Field
Fort Worth, Texas

Southwest Aircraft
Meacham Field
Fort Worth, Texas

J. D. Reed Company
Municipal Airport
Houston, Texas
*(See adv. page 63)*

Precision Aeromotive
Municipal Airport
Houston, Texas

J. L. Schroeder
Municipal Airport
Houston, Texas

G. E. Penn
Gregg County Airport
Longview, Texas

Clent Breedlove Aerial Serv.
Lubbock, Texas

Vickers Aircraft
Municipal Airport
Lubbock, Texas

Wes-Tex Aircraft
Municipal Airport
Lubbock, Texas

Brown Flying Service
Municipal Airport
San Antonio, Texas

Tomco Aviation, Inc.
Stinson Field
San Antonio, Texas

San Bento Flying Serv.
Municipal Airport
San Benito, Texas

Wichita Falls Air Trans.
Wichita Falls, Texas

Thompson Flying Service
Municipal Airport # 1
Salt Lake City, Utah

Westair, Inc.
Municipal Airport # 1
Salt Lake City, Utah

Ashburn Flying Service
Alexandria Airport
Alexandria, Va.

Coastal Aviation Corp.
Alexandria, Va.

*(Continued on page 60)*


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ON
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- **Beechcraft Approved Repair Station**
- **A.R.C. VHF Distributor Radio Engineering**
- **Wire for Ticket and Hotel Reservations**

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Dept. L5, 242 W. 55th St.
New York 19, N.Y.

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ADDRESS_____ CITY_____ STATE_____

# Directory

*(Continued from page 59)*

Sky Supply, Inc.
Beacon Field
Alexandria, Va.

Virginia Distributors
U. of Va. Airport
Charlottesville, Va.

Lynchburg Air Transport
Preston-Glenn Airport
Lynchburg, Va.

Aviation Service
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The following facts are taken from the CAA Approved Flight Manual or Operating Manual published for each airplane by its manufacturer. In order to make comparisons at similar altitudes, some of Plane A figures are interpolated from other data contained in that Manual.

## Strength and Permissible Operating Speed

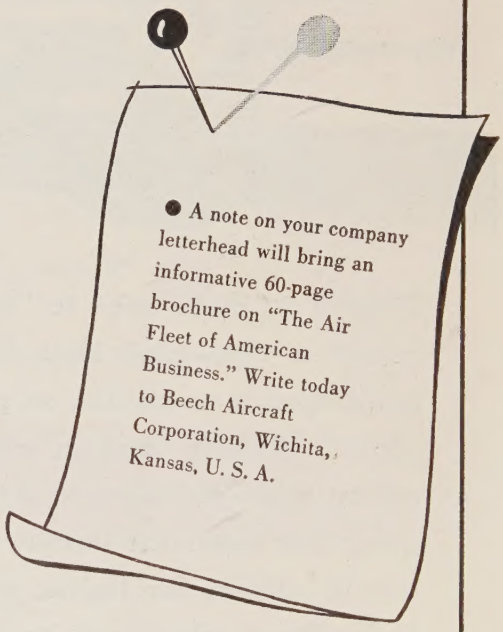
| | Plane A | Plane B | Bonanza A35 |
|---|---|---|---|
| Limit flight load factor, at full gross weight* | 3.8 | 3.8 | 4.4 |
| Ultimate flight load factor (at which failure may occur) at gross weight (based on CAR 03.201) | 5.7 | 5.7 | 6.6 |
| Placarded, never exceed, dive speed | 158 mph | 190 mph | 202 mph |

*Upper limit of the ratio of normal load to which the airplane may be subjected without incurring permanent deformaton and damage.

## Performance

| | Plane A* | Plane B* | Bonanza A35 |
|---|---|---|---|
| High Speed, Sea Level | 132 mph | 157 mph | 184 mph |
| Cruising Speed, 3500 feet | 128 mph | 150 mph | 163 mph |
| Fuel Consumption at 3500 feet, gallons/hour, recommended cruising | 10.8 | 12.0 | 9.5 |
| Range at 3500 feet with standard fuel | 540 mi. | 495 mi. | 670 mi. |
| Cruising Speed at 8000 feet | 129 mph | 144 mph | 170 mph |
| Fuel Consumption at 8000 feet, gallons/hour | 10.1 | 10.5 | 9.8 |
| Rate of Climb at Sea Level | 731 ft./min. | 730 ft./min. | 890 ft./min. |
| Rate of Climb at 8000 feet | 240 ft./min. | 310 ft./min. | 515 ft./min. |
| Service Ceiling, feet altitude | 10,400 | 12,000 | 17,100 |
| Take-off distance, over 50 feet, Sea Level | 2022 feet | 1900 feet | 1690 feet |
| Landing distance, over 50 feet, Sea Level | 1916 feet | 1300 feet | 1155 feet |
| Stalling Speed, flaps up | 64.5 mph | 69.0 mph | 65.0 mph |
| Stalling Speed, flaps down | 61.5 mph | 55.0 mph | 56.0 mph |

*The performance figures for both Plane A and Plane B are for planes equipped with optional, expensive changeable pitch propellers. The Beech controllable pitch propeller is standard equipment on all Bonanzas.



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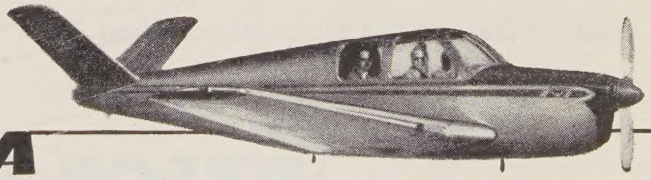

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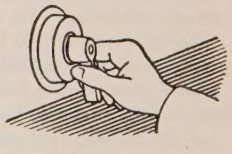

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